



SRI VENKATESWARA COLLEGE

2016-17

EVEN SEMESTER

TEACHING PLANS



**SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE**

Name of the Faculty:

Dr. Sarika Yadav

Department: **BIOCHEMISTRY**

Semester: II/IV/VI (2016-17)

Month		Topics	Course	Paper Code/Name	
JAN	Theory	Introduction to amino acids, peptides and proteins. Covalent structure of proteins: Organization of protein structure into primary, secondary, tertiary and quaternary structures. N-terminal and C-terminal amino acid analysis. Sequencing techniques - Edman degradation. Generation of overlap peptides using different enzymes and chemical reagents. Disulfide bonds and their location. Solid phase peptide synthesis	B.Sc. Biochemistry (H) I Yr, Sem II	CBCS C-3: Proteins	
		Glycolysis and gluconeogenesis: Glycolysis a universal pathway, fructose and galactose oxidation, anaerobic glycolysis, fermentation, gluconeogenesis, reciprocal regulation of glycolysis and gluconeogenesis. The citric acid cycle: Pyruvate dehydrogenase complex,	B.Sc. Biochemistry (H) I Yr, Sem. II	CBCS GE-3: Intermediary Metabolism	
		The complement system : classical & alternate pathway, Lectin pathway, regulation of the pathway, biological consequences of complement activation.	PGDMB Sem-II	PGD MB 203 : Immunology-II	
		Practicals			
	Practical	Estimation of proteins using UV absorbance and Biuret method. Microassay of proteins using Lowry/Bradford method	B.Sc. Biochemistry (H) I Yr, Sem II	CBCS C-3: Proteins	
		Hematology: RBC and WBC counting; Differential leucocyte count; Clotting time. Estimation of haemoglobin	B.Sc. Biochemistry (H) II Yr, Sem IV	CBCS C-8: Human Physiology	
		Visualization of animal and plant cell by methylene blue. Identification of different stages of mitosis in onion root tip	B. Sc (H) Biochemistry, II Yr, Sem IV	CBCS GE-5: Fundamentals of Cell Biology and Immunology	
FEB	Theory	Three dimensional structures of proteins: Nature of stabilizing bonds - covalent and non covalent. Importance of primary structure in folding. The peptide bond - bond lengths and configuration. Dihedral angles psi and phi. Helices, sheets and turns. Ramachandran map. Motifs and domains. Tertiary and quaternary structures. Structures of myoglobin and haemoglobin	B.Sc. Biochemistry (H) I Yr, Sem II	CBCS C-3: Proteins	

		oxidation of acetyl CoA, amphibolic role, regulation and glyoxylate pathway. Oxidative phosphorylation: The respiratory chain in mitochondria, proton gradient powering ATP synthesis, glycerol-3-phosphate and malate-aspartate shuttle, regulation of oxidative phosphorylation.	B.Sc. Biochemistry (H) I Yr, Sem. II	CBCS GE-3: Intermediary Metabolism
		Hypersensitivity reactions : type I, II,III and IV	PGDMB Sem-II	PGD MB 203 : Immunology-II
	Practical:	Isoelectric pH of casein. Ammonium sulphate fractionation of serum proteins.	B.Sc. Biochemistry (H) I Yr, Sem II	CBCS C-3: Proteins
		Separation of plasma proteins. Determination of total iron binding capacity. Pulmonary function tests, spirometry and measurement of blood pressure	B.Sc. Biochemistry (H) II Yr, Sem IV	CBCS C-8: Human Physiology
		Isolation of organelles by sub-cellular fractionation. Isolation of IgG from serum by ion exchange chromatography.	B. Sc (H) Biochemistry, II Yr, Sem IV	CBCS GE-5: Fundamentals of Cell Biology and Immunology
<u>MARCH</u>	Theory	Protein folding and conformational diseases: Denaturation and renaturation of Ribonuclease A. Introduction to thermodynamics of folding and molten globule. Assisted folding by molecular chaperones, chaperonins and PDI. Myoglobin and haemoglobin: Oxygen binding curves, influence of 2,3-BPG, CO ₂ and Cl ⁻ . Hill plot. Cooperativity between subunits Specialized proteins - antibodies and actin-myosin motors: Antibody structure and binding to antigens. (TEST and ASSIGNMENTS)	B.Sc. Biochemistry (H) I Yr, Sem II	CBCS C-3: Proteins
		The light reaction, chlorophyll, accessory pigments, reaction centres, two photo systems, generation of proton gradient and NADPH, Calvin cycle. Glycogenolysis, phosphorylase regulation, role of epinephrine and glucagon for glycogenolysis (TEST and ASSIGNMENTS)	B.Sc. Biochemistry (H) I Yr, Sem. II	CBCS GE-3: Intermediary Metabolism
		Vaccines : active and passive immunization, attenuated & inactivated vaccines, new approaches to vaccine development (TEST and ASSIGNMENTS)	PGDMB Sem-II	PGD MB 203 : Immunology-II
	Practical	Separation of albumin from serum using anion-exchange chromatography. SDS-PAGE analysis of proteins.	B.Sc. Biochemistry (H) I Yr, Sem II	CBCS C-3: Proteins
		Separation of isoenzymes of LDH by electrophoresis. Histology of connective tissue, liver and/ brain permanent slides. Case studies (Renal clearance, GFR, ECG).	B. Sc (H) Biochemistry, II Yr, Sem IV	CBCS C-8: Human Physiology

		Antigen-antibody interaction by Ouchterlony double diffusion.	B. Sc (H) Biochemistry, II Yr, Sem IV	CBCS GE-5: Fundamentals of Cell Biology and Immunology
<u>APRIL</u>	Theory	ATP activated actin - myosin contractions. Membrane proteins: Integral and membrane associated proteins. Hydropathy plots to predict transmembrane domains. Significance of membrane proteins - bacteriorhodopsin.	B.Sc. Biochemistry (H) I Yr, Sem II	CBCS C-3: Proteins
		Glycogenesis; reciprocal regulation of glycogenesis and glycogenolysis	B.Sc. Biochemistry (H) I Yr, Sem. II	CBCS GE-3: Intermediary Metabolism
		Autoimmunity : organ specific and systemic autoimmune diseases	PGDMB Sem-II	PGD MB 203 : Immunology-II
	Practical	Revision of practicals, Mock Practical Examination	B.Sc. Biochemistry (H) I Yr, Sem II	CBCS C-3: Proteins
		Revision of practicals, Mock Practical Examination	B. Sc (H) Biochemistry, II Yr, Sem IV	CBCS C-8: Human Physiology
		Revision of practicals, Mock Practical Examination	B. Sc (H) Biochemistry, II Yr, Sem IV	CBCS GE-5: Fundamentals of Cell Biology and Immunology



**SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE**

Name of the Faculty: Dr.Nandita Narayanasamy **Department:**

BIOCHEMISTRY

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Introduction to developmental biology and genetics.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	GGHT 602 Genetics and genomics II
		Intracellular, extracellular and interstitial fluid. Plasma as an extraellular fluid;plasma composition; plasma proteins; Blood cellular components; RBC; Hemostasis and molecular mechanism of Blood coagulation; Role of Vitamin K in coagulation; Anti coagulant and fibrinolytic systems. Anemias, Polycythemia,Haemophilia and Thrombosis.	B.Sc. BIOCHEMISTRY Hons.) III Year, Semester VI	BCHT 611 Molecular Physiology
		Intracellular, extracellular and interstitial fluid. Homeostasis, control system and their components. Plasma as an extracellular fluid, RBC, molecular mechanism of blood coagulation, role of vitamin K in coagulation, anticoagulant and fibrinolytic systems. Anemias, polycythemia, haemophilia and thrombosis.	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester IV	BCH C8: Human Physiology
	Practicals	Isolation of plasmid and genomic DNA from Bacteria. Isolation of Genomic DNA from Blood and Saliva.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	GGHT 602 Genetics and genomics II
		Detrmination of enzyme activity Determination of Molar extinction coefficient of PNP and effect of pH and alkalinity on Molar extinction coefficient of PNP Determination of effect of time pf incubation on enzyme activity.	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester II	BCH C-4 Enzymes
FEBRUARY	Theory	Study of model systems in developmental genetics- <i>Drosophila melanogaster</i> <i>Sachharomyces cerevisiae</i> , <i>Caenorhabditis elegans</i> , <i>Arabidopsis thaliana</i> , and <i>Xenopus laevis</i> .	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	GGHT 602 Genetics and genomics II

		Anatomy of heart; Physiology of the cardiac muscle; automacity of the cardiac muscle; Excitation contraction coupling; relationship between cardiac cycle, heart sound ventricular volumes and the ECG; Control of cardiac function and output. Physics of blood pressure, flow and resistance; the arterial system; the venous system; the microcirculation and mechanics of capillary fluid exchange; Control of blood flow to the tissues; Portal circulations. Arterial pressure and its regulation Hypertension, Congestive heart disease, atherosclerosis and Myocardial infarction.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	BCHT 611 Molecular Physiology
		Pressure, flow and resistance. Anatomy of heart. Physiology of the cardiac muscle, automacity of the cardiac muscle contraction, excitation contraction coupling, relationship between cardiac cycle, heart sound, ventricular volumes and the ECG, control of cardiac function and output. The arterial system, venous system, the microcirculation and mechanics of capillary fluid exchange. Control of blood flow to the tissues. Portal circulations. Arterial pressure and its regulation. Hypertension, congestive heart disease, atherosclerosis and myocardial infarction.	B.Sc. BIOCHEMISTRY (Hons.) II Year, Semester IV	. BCH C-8 Human Physiology
	Practicals:	Restriction enzyme digestion of genomic DNA and plasmid DNA isolated from <i>E.coli</i> . Estimation of size of a DNA fragment after electrophoresis using DNA markers. Construction of Restriction digestion maps from data provided..	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	GGHT 602 Genetics and genomics II
		Effect of pH on enzyme activity Effect of Temp on Enzyme activity Determination of Specific activity Evaluation of students..	B.Sc. BIOCHEMISTRY (Hons.) I Year, Semester II	BCH C 4: Enzyme
MARCH	Theory	Population Genetics Allele frequencies, Genotype frequencies, Hardy-Weinberg Law, role of natural selection, mutation, genetic drift.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	GGHT 602 Genetics and genomics II
		Reproductive physiology: Sex determination; development of female and male genital tracts; Spermatogenesis; capacitation of sperm; testis blood barrier; Physiology of female reproductive of placenta; the feto placental unit.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	BCHT 611 : Molecular Physiology
		Sex determination and differentiation. Development of female and male genital tracts. Spermatogenesis, capacitation and transport of sperm, blood testis barrier. Ovarian function and its control. Uterine changes, fertilization and implantation. Placenta as a feto- maternal unit, gestation and parturition	B.Sc. BIOCHEMISTRY (Hons.) II Year, Semester IV	BCH C8 : Human Physiology
	Practicals	Demonstration of DNA fingerprinting Conjugation in bacteria Comparing the sequence of Mitochondrial DNA and Bacterial DNA Determination of Hardy wienberg equilibrium	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	GGHP -601 Genetics and genomics I
		Determination of Km and Ki of Acid Phosphatase Partial Purification of Acid Phosphatase Estimation of a continuous Enzyme assay.	B.Sc. BIOCHEMISTRY (Hons.) I Year, Semester II	BCH C-4: Enzymes

	<u>Test</u>	Midterm test for Molecular physiology. Midterm test for Genetics and genomics II	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	GGHT 602: Genetics and Genomics I BCHT 611 – Molecular Physiology
	<u>Assignment</u>	Presentation on congenital defects by students.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester V	GGHT 602: Genetics and Genomics I BCHT 611 – Molecular Physiology
		Assignment on exercise physiology, sports physiology and altitude and under sea physiology. Midterm test for Human physiology	B.Sc. BIOCHEMISTRY (Hons.) II Year, Semester IV	BCH C 8: Human physiology
APRIL	Theory	Evolutionary Genetics Genetic variation and Speciation.	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	GGHT 601: Genetics and genomics II
		Organization of the central nervous system; cells of the nervous system and anatomy and physiology of Blood Brain Barrier. Introduction to neural networks: central, autonomic and peripheral; the sensory and motor tracts; mechanism and importance of myelination. Sensory perception of Pain, temperature, touch and vision; Physiology of reflex action; The motor cortex; corticospinal tracts. Basic physiology and biochemistry of Learning and Memory	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	BCHT 611: Molecular physiology
		Central Nervous system. Peripheral Nervous system. Blood brain barrier and CSF. Membrane potentials. Synaptic transmission. Neurotransmitters. Sensory receptors and neural pathways. Somatic sensation, EEG, sleep, coma, learning and memory.	B.Sc. BIOCHEMISTRY (Hons.) II Year, Semester IV	BCH C 8: Human Physiology
	Practicals:	Repeat practicals	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	GGHP 602: Genetics and genomics II
		Repeat practicals	B.Sc. BIOCHEMISTRY (Hons.) I Year, Semester I	BCH C 4: Enzymes.



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Shalini Sen

Department: **BIOCHEMISTRY**

B.Sc.(H) Biochemistry Semesters IV/VI, PG Diploma-Semester II

Month		Topics	Course	Paper Code/Name
January	Theory	Unit 3 Replication of DNA No. of Hours: 20 The chemistry of DNA synthesis, DNA polymerase, the replication fork, origin of replication.	B.Sc.(H) BIOCHEMISTRY Semester IV	BCH C-9: Gene Organization, Replication and Repair
		Unit I Restriction enzymes, DNA methylation, Restriction mapping, other enzymes used in cloning.	B.Sc.(H) BIOCHEMISTRY Semester VI	BCTH-612 Paper 22 Recombinant DNA Technology
		Unit 1. Heterologous protein expression in E.coli Unit 3. Gene transfer to plants Blotting Techniques: Southern, Northern, Western blots.	P.G. Diploma In Molecular and Biochemical Technology Semester II	PGDMB 201 RDT-II Paper IV Biophysical Techniques II
	Practicals	<ul style="list-style-type: none"> • Ultraviolet absorption spectrum of DNA and RNA. • Determination of DNA and RNA concentration by A260nm. • Continuous Evaluation I 	B.Sc.(H) BIOCHEMISTRY Semester IV	BCH C-9: Gene Organization, Replication and Repair

		<ul style="list-style-type: none"> Preparation of competent cells of E.coli Transformation of competent cells with plasmid DNA 	P.G. Diploma Semester II	PGDMB L205 RDT-II
FEBRUARY	Theory	Unit 3. Enzymes and proteins in DNA replication, various modes of replication, stages of replication of E.coli chromosome, relationship between replication and cell division, replication in eukaryotes, comparison of replication in prokaryotes and eukaryotes. Inhibitors of DNA replication and applications in medicine.	B.Sc.(H) BIOCHEMISTRY Semester IV	BCH C-9: Gene organization, Replication and Repair
		Unit 1. Covalent linkage of DNA fragments to vector molecules: Linkers, adaptors, homopolymer tailing. Generation of genomic and cDNA libraries.	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester VI	BCTH-612 Paper 22 Recombinant DNA Technology
		Unit 5. DNA sequencing (Maxam Gilbert, Sanger, Pyrosequencing, shotgun, Contig assembly. Site directed mutagenesis. Unit2 (contd) plaque lift and colony hybridization, dot blot.	P.G. Diploma In Molecular and Biochemical Technology Semester II	PGDMB 202 RDT-II PGDMB 201 Biophysical Techniques II
	Practicals :	<ul style="list-style-type: none"> Determination of the melting temperature and GC content of DNA. Verification of Chargaff's rule by paper chromatography. Continuous Evaluation II 	B.Sc. BIOCHEMISTRY (Hons) II Year, Semester IV	BCH C-9: Gene Organization, Replication and Repair
		<ul style="list-style-type: none"> To study the effect of alkaline phosphatase on plasmid recircularization PCR amplification of a gene 	P.G. Diploma In Molecular and Biochemical Technology Semester II	PGDMB L205 RDT-II
	Internal Assessment	Class Test -1		
MARCH	Theory	Unit 4. Homologous recombination, proteins and enzymes in recombination, site-specific recombination, serine and tyrosine recombinases, biological roles of site-specific recombination.	B.Sc.(H) BIOCHEMISTRY Semester IV	BCH C-9: Gene organization, Replication and Repair

		Unit 4. Expression vectors, fusion proteins, in vitro translation systems, RNAi vectors, DNA sequencing, Site-directed mutagenesis.	B.Sc.(H) BIOCHEMISTRY Semester VI	BCTH-612 Paper 22 Recombinant DNA Technology
		Protein engineering, Applications of recombinant DNA Technology Unit6 Additional methods to identify proteins: FRET, PCA, yeast two-hybrid	P.G. Diploma In Molecular and Biochemical Technology Semester II	PGDMB 202 RDT-II PGDMB 201 Biophysical Techniques II
	Practicals	<ul style="list-style-type: none"> Isolation of Chromosomal DNA from <i>E. coli</i> cells Repeat any previous experiment Continuous Evaluation III 	B.Sc.(H) BIOCHEMISTRY Semester IV	BCH C-9: Gene Organization, Replication and Repair
		<ul style="list-style-type: none"> Calculation of phage titre Cloning a gene 	P.G. Diploma In Molecular and Biochemical Technology Semester II	PGDMB L205 RDT-II
		Assignments and Class Tests for all courses		
APRIL	Theory	Unit 4 (contd) Transposition, three classes of transposable elements, importance of transposable elements in horizontal transfer of genes	B.Sc.(H) BIOCHEMISTRY Semester IV	BCH C-9: Gene organization, Replication and Repair
		Unit7 (contd.) Protein engineering Unit 10 Applications of recombinant DNA Technology	B.Sc.(H) BIOCHEMISTRY Semester VI	BCTH-612 Paper 22 Recombinant DNA Technology
		Unit 11 Safety of recombinant DNA technology and ethical issues Unit 6 (contd) Mass spectroscopy	P.G. Diploma Biochemical Technology and Biotechnology Semester II	PGDMB 202 RDT-II PGDMB 201 Biophysical Techniques II
	Practical	Repetition of any practical Revision and Preparation for Viva Mock Practical Exam	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester IV	BCH C-9: Gene organization, Replication and Repair

		Repetition of any practical Revision and Preparation for Viva	P.G. Diploma In Molecular and Biochemical Technology Semester II	PGDMB L205 RDT-II
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SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. NIMISHA SINHA

Department: BIOCHEMISTRY

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Unit 1: Concept and emergence of r-DNA technology: Cloning vectors – Plasmids, λ bacteriophage based, M13 phage based, phagemids. High capacity vectors: Cosmids, yeast artificial chromosomes, bacterial artificial chromosomes No. of HOURS: 8	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	Paper 22-BCHT-612: RECOMBINANT DNA TECHNOLOGY
		Unit 2 Overview of amino acid metabolism. Catabolism of amino acids, Catabolic pathways of individual amino acids. Glucogenic and ketogenic amino acids. Metabolism of one carbon units. Disorders of amino acids metabolism, phenylketonuria, alkaptonuria, maple syrup urine disease, methylmalonic acidemia (MMA), homocystinuria and Hartnup's disease. No. of Hours: 10	B.Sc. BIOCHEMISTRY (Hons.) II Year, Semester IV	CBCS:BCH C-10: METABOLISM OF AMINO ACIDS AND NUCLEOTIDES
		Unit 1 Basic concepts and design of metabolism, The nature of metabolism. Role of oxidation and reduction and coupling of these. ATP as energy currency. No. of HOURS: 4 Unit 7 Fatty acid synthesis and degradation TAG as energy source, β oxidation of fatty acids in mitochondria and peroxisomes, ketone bodies. Biosynthesis of fatty acids - elongation and unsaturation of fatty acids. No. of HOURS: 4	B.Sc. BIOCHEMISTRY (Hons.) I Year, Semester II	CBCS BCH GE-3 : INTERMEDIARY METABOLISM
	Practical	<ul style="list-style-type: none"> Isolation of Plasmid DNA Restriction enzyme digestion of plasmid DNA and size estimation of fragments. Isolation of plasmid DNA and genomic DNA together from <i>E.coli</i> and restriction enzyme digestion. 	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	Paper 22-BCHP-612: RECOMBINANT DNA TECHNOLOGY
		<ul style="list-style-type: none"> Preparation of competent cells of <i>E.coli</i> Transformation of competent <i>E.coli</i> cells with plasmid DNA. And repeat the same experiment 	PGDMB	PGDMB 102 Recombinant DNA technology

		<ul style="list-style-type: none"> Preparation of media and autoclaving Isolation of chromosomal DNA from E. coli cells Isolation of plasmid DNA from E. coli cells Digestion of plasmid DNA by restriction enzyme 	B.Sc. BIOLOGICAL SCIENCES (Hons.) Semester IV	SEC-6: RECOMBINANT DNA TECHNOLOGY
	Assignments	Related to the topics covered so far.		
FEBRUARY	Theory	Unit 5 DNA transactions in Microorganisms: Cloning DNA/RNA in bacteria (Transformation, transduction and conjugation), methods of gene transfer into yeast (YIp, YE _p , YC _p , YR _p , shuttle vectors) fungi, plant and animal host systems. Polymerase Chain Reaction, VNTRs, DNA fingerprinting, SNPs, RFLPs. No. of Hours: 8	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	Paper 22-BCHT-612: RECOMBINANT DNA TECHNOLOGY
		Unit 3 Biosynthesis of amino acids No. of Hours: 8 Overview of amino acid synthesis. Biosynthesis of non-essential amino acids and its regulation.	B.Sc. BIOCHEMISTRY (Hons.) II Year, Semester IV	CBCS :BCH C-10: METABOLISM OF AMINO ACIDS AND NUCLEOTIDES
		Unit 8 Amino acid catabolism and anabolism No. of HOURS: 6 Protein degradation to amino acids, urea cycle, feeder pathways into TCA cycle. Nitrogen fixation, synthesis of non-essential amino acids.	B.Sc. BIOCHEMISTRY (Hons.) I Year, Semester II	CBCS BCH GE-3 : INTERMEDIARY METABOLISM
	Practical	<ul style="list-style-type: none"> Designing of primers for any selected genes. Demonstration of PCR technique. Repeat plasmid isolation 	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	Paper 22-BCHP-612: RECOMBINANT DNA TECHNOLOGY
		<ul style="list-style-type: none"> To study the effect of alkaline phosphatase on plasmid recircularization PCR amplification of a gene 	P.G. Diploma In Molecular and Biochemical Technology Semester II	PGDMB L205 RDT-II
		<ul style="list-style-type: none"> Preparation of competent cells by calcium chloride method Transformation of E coli cells with plasmid DNA 	B.Sc. BIOLOGICAL SCIENCES (Hons.) Semester IV	SEC-6: RECOMBINANT DNA TECHNOLOGY
	Assignments	Related to the topics covered		
	Test	Class Test -1, for all courses will be conducted pertaining to the syllabus done so far.		
MARCH	Theory	Unit 9 Comparative genomics: analysis and comparison of size and complexity of genomes RNA level –expression profiling with microarrays, MPSS, Chromatin immunoprecipitation, protein level - yeast two hybrid system, yeast surface display, phage display loss of function. No. of Hours: 8	B.Sc. BIOCHEMISTRY (Hons.) III Year, Semester VI	Paper 22-BCHT-612: RECOMBINANT DNA TECHNOLOGY
		Unit 4 Precursor functions of amino acids, Biosynthesis of creatine and creatinine, polyamines (putresine, spermine, spermidine), catecholamines (dopamine, epinephrine, norepinephrine) and neurotransmitters (serotonin, GABA). Porphyrin biosynthesis, catabolism	B.Sc. BIOCHEMISTRY (Hons.) II Year, Semester IV	CBCS :BCH C-10: METABOLISM OF AMINO ACIDS AND

		and disorders of porphyrin metabolism. No. of Hours: 8		NUCLEOTIDES
		Unit 9 : Nucleotide metabolism No. of HOURS: 6 Biosynthesis - <i>de novo</i> and salvage pathways, regulation of nucleotide synthesis by feedback inhibition, degradation and excretion. Unit 5: synthesis of glucose, starch, sucrose, regulation, C4 pathway. Pentose phosphate pathway, importance and regulation.	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester II	CBCS BCH GE-3 : INTERMEDIAR Y METABOLISM
	Practical	<ul style="list-style-type: none"> Preparation of competent cells and transformation Repeat any previous experiment 	B.Sc. BIOCHEMISTRY Hons.) III Year, Semester VI	Paper 22-BCHP-612: RECOMBINAN T DNA TECHNOLOGY
		<ul style="list-style-type: none"> Calculation of phage titre Cloning a gene 	P.G. Diploma In Molecular and Biochemical Technology Semester II	PGDMB L205 RDT-II
		<ul style="list-style-type: none"> Blue white selection Primer designing and setting up a PCR 	B.Sc. BIOLOGICAL SCIENCES (Hons.) Semester IV	SEC-6: RECOMBINANT DNA TECHNOLOGY
	<u>Test</u>	Class Test -2, for all courses will be conducted pertaining to the syllabus done so far. And repeat test for those who fail to score well in class test 1		
APRIL	Theory	Unit 8 contd: Knock out, knock down, antisense RNA and RNA i. Solid phase synthesis of DNA No. of Hours: 6	B.Sc. BIOCHEMISTRY Hons.) III Year, Semester VI	Paper 22-BCHT-612: RECOMBINAN T DNA TECHNOLOGY
		Unit 8 Integration of metabolism No. of Hours: 6 Integration of metabolic pathways (carbohydrate, lipid and amino acid metabolic pathways), tissue specific metabolism (brain, muscle, and liver).	B.Sc. BIOCHEMISTRY Hons.) II Year, Semester IV	CBCS :BCH C-10: METABOLISM OF AMINO ACIDS AND NUCLEOTIDES
		Unit 10 Integration of metabolism Brief role of hormones - catecholamines, insulin, glucagon; metabolic shifts to provide fuel to brain during fasting and starvation, role of cortisol in signaling stress - increase in gluconeogenesis and muscle protein breakdown. No. of HOURS: 6	B.Sc. BIOCHEMISTRY Hons.) I Year, Semester II	CBCS BCH GE-3 : INTERMEDIAR Y METABOLISM
	Practical	Revision and Preparation for Viva Mock Practical Exam	B.Sc. BIOCHEMISTRY Hons.) III Year, Semester VI	Paper 22-BCHP-612: RECOMBINAN T DNA TECHNOLOGY
		Revision and Preparation for Viva Mock Practical Exam	P.G. Diploma In Molecular and Biochemical Technology Semester II	PGDMB L205 RDT-II
		Revision and Preparation for Viva Mock Practical Exam	B.Sc. BIOLOGICAL SCIENCES (Hons.) Semester IV	SEC-6: RECOMBINANT DNA TECHNOLOGY



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Anju Kaicker

Department: Biochemistry

Semester :

I/III/V

Month		Topics	Course	Paper Code/Name
JULY	Theory	Overview of the immune system Importance of Signaling Pathways		1 : 249505 2 : 249503
	Practicals			
	Tutorials			
AUGUST	Theory:	1. Immunogenicity & Antigenicity, Factors that effect antigenicity, Epitopes, Hapten- Carrier complex, Innate immunity & adaptive immunity, Receptors of innate system, Inflammation 2. GPCR, PKA, PKG, Toxins & their effect on their pathways, Steroid hormone receptors		1 : 249505 2 : 249503

	Practicals:	1. Estimation of Glucose in serum 2. Glucose Tolerance Test 3. Estimation of Calcium in serum samples		
	Tutorials:			
SEPTEMBER	Theory:	1. Toll like Receptors, Signaling using this pathway, Complement system and its regulation. MHC : Structure and function, Antigen processing pathways. 2. NRTs, Jak STAT pathway, phosphoinositide pathway, PI 3 kinase, Regulation of pathways and their convergence & divergence		1: 249505 2.: 249503

	Practicals:	1. Estimation of TSH in serum 2. Estimation of T4 in serum 3. Estimation of Lipid profile in serum		
	Tutorials:			
	<u>Assignment :</u>	Assignments given to the students		
OCTOBER	Theory:	1. TCR and structure of various accessory molecules, Generation of mature T cells, CTL response, NK cells 2. Regulation of calcium in bones, Vitamin D, parathormone, Calcitonin	1 : 249505 2 : 249503	
	Practicals:	1. Estimation of estradiol in serum 2. Revision of practicals		
	Tutorials:			
	<u>Test</u>	Mid term Examination		
NOVEMBER	Theory:	Revision of the various topics		
	Practicals:	Mock practical and Final exams		
	Tutorials:			



**SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE**

Name of the Faculty: Dr. Anju Kaicker

Department:

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Antigen Antibody Interactions : Precipitation Reactions, Agglutination, ELISA, RIA	Biochemistry Hons, TBCH	BCHT 613
		Digestion and absorption of food, Bile secretion and liver function		BCHT 611
		T cell structure and function	PGDMB	PGDMB 203
	Practicals	Sandwich ELISA and Dot ELISA Purification of IgG by affinity chromatography Native gels and zymograms	PGDMB	PGDMB L 206
	Tutorials			
FEBRUARY	Theory:	Cytokines : their structure and function , cytokines in therapy	Biochemistry Hons, TBCH	BCHT 613
		Cancer and the immune system		BCHT 611
		Pathophysiology of the GI tract, Ventilation and the lung mechanics		
	Cell mediated immunity and cytokines	PGDMB	PGDMB 203	
Practicals:	Antibody titre by indirect ELISA Complement test SDS PAGE and molecular weight determination	PGDMB	PGDMB L 206	
	Tutorials:			

	<u>Assignment</u> :			
MARCH	Theory:	Immune response to viral infections and bacterial pathogens. Exchange of gases and their transport. Control of respiration. Hypoxia Cancer and the immune system	Biochemistry TBCH PGDMB	BCHT 613 BCHT 611 PGDMB 203
	Practicals:	Isoelectric focusing and two dimensional gels, immunoblotting Purification of antibodies by ion exchange , pepsin digestion of antibodies	PGDMB	PGDMB L206
	Tutorials:			
	<u>Test</u>			
APRIL	Theory:	Protozoan infections and immunity to these pathogens, Helminths and immune system Renal function and the urinary system, Renal regulation of water and ions Immune response to infectious diseases	Biochemistry TBCH PGDMB	BCHT 613 BCHT 611 PGDMB 203
	Practicals:	Project work	PGDMB	PGDMB L206
	Tutorials:			

MAY	Theory:	Examinations		
	Practicals:			
	Tutorials:			

SEMESTER WISE TEACHING PLAN

SRI VENKATESWARA COLLEGE

Name of the Faculty: **Dr. Nitika Kaushal**

Department: **Biochemistry**

Semester: II/ IV/ VI

MONTH		TOPICS	COURSE	PAPER CODE/ PAPER NAME
JANUARY	Theory	Unit 5: Gastrointestinal and hepatic physiology	B.Sc. Biochemistry (H) II Yr, Sem IV	BCH C-8: HUMAN PHYSIOLOGY
		Unit 2 Metabolic Pathways – Carbohydrate metabolism pathways	B.Sc. Bio Sc (H) II Yr, Sem IV	BS C10: METABOLISM AND INTEGRATION
		Unit 6: Overview of the immune system - Self versus nonself, Humoral and cellular immunity, Innate and adaptive immunity, Cells of the immune system, primary and secondary lymphoid tissues and organs, Cellular and humoral responses Unit 7 Innate immunity – Defensins, Non-immunological barriers, Cells and soluble mediators of innate immunity, Acute phase proteins	B.Sc.(H) II Yr, Sem IV	BCH GE-5: FUNDAMENTALS OF CELL BIOLOGY AND IMMUNOLOGY
	Practical	Purification of antibodies from serum using salt fractionation and gel filtration Purification of IgG by ion exchange chromatography	PGDMB Sem II	PGDMBL 206: IMMUNOLOGY II
		Introduction to hematology and sample collection Liver Function Tests – SGPT, SGOT	B.Sc. Biochemistry (H) II Yr, Sem IV	BCH C-10: AMINO ACID AND NUCLEOTIDE METABOLISM
		Estimation of Iron, Hb, Met Hb and Transferrin Binding Protein Clotting time	B.Sc. Biochemistry (H) III Yr, Sem VI	BCHT 611: MOLECULAR PHYSIOLOGY
		Theory	Unit 3: Respiration - Organization of the pulmonary system, Mechanism of respiration, pulmonary ventilation and related volumes, pulmonary circulation. Principles of gas exchange and transport. Regulation of respiration.	B.Sc. Biochemistry (H) II Yr, Sem IV
Unit 2 Metabolic Pathways - Disorders associated with defects in carbohydrate metabolism	B.Sc. Bio Sc (H) II Yr, Sem IV		BS C10: METABOLISM AND INTEGRATION	
Unit 7: Innate Immunity - Cytokines, Complement system	B.Sc.(H) II Yr, Sem IV		BCH GE-5: FUNDAMENTALS	

		Unit 8: Humoral B cell response		OF CELL BIOLOGY AND IMMUNOLOGY
	Practical	Preparation of IgG fraction using Protein A Sepharose column Digestion of antibodies with pepsin and preparation of F(ab) ₂ fragment using Sephadex G-100 chromatography Linking of enzyme to antibodies using one step glutaraldehyde method	PGDMB Sem II	PGDMBL 206: IMMUNOLOGY II
		Kidney Function Tests – Glucose, urea, uric acid and creatinine estimation	B.Sc. Biochemistry (H) II Yr, Sem IV	BCH C-10: AMINO ACID AND NUCLEOTIDE METABOLISM
		Liver function tests	B.Sc. Biochemistry (H) III Yr, Sem VI	BCHT 611: MOLECULAR PHYSIOLOGY
MARCH	Theory	Unit 3: Respiration - Pulmonary oedema and regulation of pleural fluid. Hypoxia, hypercapnea, pulmonary distress, emphysema, ARDS. Unit 4: Renal physiology	B.Sc. Biochemistry (H) II Yr, Sem IV	BCH C-8: HUMAN PHYSIOLOGY
		Unit 2: Metabolic Pathways – Lipid Metabolism	B.Sc. Bio Sc (H) II Yr, Sem IV	BS C10: METABOLISM AND INTEGRATION
		Unit 8 Humoral B cell response - antigens, haptens carriers and adjuvants Unit 9 Cell mediated immunity	B.Sc.(H) II Yr, Sem IV	BCH GE-5: FUNDAMENTALS OF CELL BIOLOGY AND IMMUNOLOGY
	Practical	Dot ELISA Determination of antibody titre by indirect ELISA	PGDMB Sem II	PGDMBL 206: IMMUNOLOGY II
		Value added experiments	B.Sc. Biochemistry (H) II Yr, Sem IV	BCH C-10: AMINO ACID AND NUCLEOTIDE METABOLISM
		Creatine kinase for muscular function Kidney function test	B.Sc. Biochemistry (H) III Yr, Sem VI	BCHT 611: MOLECULAR PHYSIOLOGY
APRIL	Theory	Unit 4: Renal Physiology - Assessment of kidney function. Acidosis and alkalosis. Glomerular nephritis, renal failure, dialysis and diuretics. Unit 6: Musculoskeletal system	B.Sc. Biochemistry (H) II Yr, Sem IV	BCH C-8: HUMAN PHYSIOLOGY
		Unit 4 Metabolic Integration	B.Sc. Bio Sc (H) II Yr, Sem IV	BS C10: METABOLISM AND INTEGRATION
		Unit 9: Cell mediated immunity	B.Sc.(H) II Yr,	BCH GE-5: FUNDAMENTALS

			Sem IV	OF CELL BIOLOGY AND IMMUNOLOGY
	Practical	Measurement of antigens by Direct and Competitive ELISA Revision and Mock Practical Examination	PGDMB Sem II	PGDMBL 206: IMMUNOLOGY II
		Revision and Mock Practical Examination	B.Sc. Biochemistry (H) II Yr, Sem IV	BCH C-10: AMINO ACID AND NUCLEOTIDE METABOLISM
		Separation of isoenzymes of LDH by electrophoresis Revision and Mock Practical Examination	B.Sc. Biochemistry (H) III Yr, Sem VI	BCHT 611: MOLECULAR PHYSIOLOGY
MAY	Theory	-	B.Sc. Biochemistry (H) II Yr, Sem IV	BCH C-8: HUMAN PHYSIOLOGY
		-	B.Sc. Bio Sc (H) II Yr, Sem IV	BS C10: METABOLISM AND INTEGRATION
		-	B.Sc.(H) II Yr, Sem IV	BCH GE-5: FUNDAMENTALS OF CELL BIOLOGY AND IMMUNOLOGY
	Practical	Final Practical Examination	PGDMB Sem II	PGDMBL 206: IMMUNOLOGY II
		Final Practical Examination	B.Sc. Biochemistry (H) II Yr, Sem IV	BCH C-10: AMINO ACID AND NUCLEOTIDE METABOLISM
		Final Practical Examination	B.Sc. Biochemistry (H) III Yr, Sem VI	BCHT 611: MOLECULAR PHYSIOLOGY



SEMESTER WISE TEACHING PLAN 2016-17
SRI VENKATESWARA COLLEGE
UNIVERSITY OF DELHI

Name of the Faculty: Dr.Ravindra Varma Polisetty
Department: Biochemistry
Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Introduction to amino acids, peptides and proteins : <ul style="list-style-type: none"> • Amino acids and their properties - hydrophobic, polar and charged. • Biologically important peptides - hormones, antibiotics and growth factors. • Multimeric proteins, conjugated proteins and metallo proteins. Diversity of function. 	BSc. (H) Biochemistry FBCH.	BCH CC-3/Proteins.
		Extraction of proteins for downstream processing: <ul style="list-style-type: none"> • Solubilization of proteins from their cellular and extracellular locations. Use of simple grinding methods, homogenization, ultrasonication, French press and centrifugation. 		
		Overview of amino acid metabolism: <ul style="list-style-type: none"> • Nitrogen cycle, incorporation of ammonia into biomolecules. Metabolic fates of amino groups. • Digestion and absorption of dietary proteins. Protein calorie malnutrition - Kwashiorkar and Marasmus. • Nitrogen balance, transamination, role of pyridoxal phosphate, glucose-alanine cycle, Krebs's bicycle, urea cycle and inherited defects of urea cycle. 	BSc. (H) Biochemistry SBCH	BCH C-8/ Amino Acid and Nucleotide Metabolism
		Biological membranes: <ul style="list-style-type: none"> • Colloidal solution, Micelles, reverse micelles, bilayers, liposomes, phase transitions of lipids, active, passive and facilitated transport of solutes and ions, Fick's Laws, Nernst Planck 	BSc (H) Biological Sciences FBS	BSH CC-3/Biophysics

	Practicals:	<ul style="list-style-type: none"> • Determination of Km and Vmax using Lineweaver-Burk graph. • Enzyme inhibition - calculation of Ki for competitive inhibition. • Urea estimation. • Uric acid estimation. • Isoelectric focussing of proteins and two dimensional gel electrophoresis • Southern blotting • Western blotting 	BSc. (H) Biochemistry FBCH	BCH CC- 4/ Enzymes
	Tutorials:		PGD MB SEMESTER-II	GE -3/ Intermediary metabolism PGD MB L204/ Biophysical techniques-II
MARCH	Theory:	<p>Characterization of proteins:</p> <ul style="list-style-type: none"> • Determination of purity, molecular weight, extinction coefficient and sedimentation coefficient, IEF, SDS-PAGE and 2-D electrophoresis • Mass spectrometric analysis, tandem MS, Techniques used in studying 3-D structures – Xray diffraction and NMR. <p>Deoxyribonucleotides and synthesis of nucleotide triphosphate:</p> <ul style="list-style-type: none"> • Biosynthesis of deoxyribonucleotides and its regulation, conversion to triphosphates, biosynthesis of coenzyme nucleotides. <p>Spectroscopic techniques:</p> <ul style="list-style-type: none"> • Basic principles of electromagnetic radiation, energy, wavelength, wave numbers and frequency. • Review of electronic structure of molecules (Molecular Orbital theory), absorption and emission spectra. • Beer-Lambert law, light absorption and its transmittance. UV and visible spectrophotometry- principles, instrumentation and applications. 	BSc. (H) Biochemistry FBCH	BCH CC-3/Proteins
			BSc. (H) Biochemistry SBCH	BCH C-8/ Amino Acid and Nucleotide Metabolism
			BSc (H) Biological Sciences FBS	BSH CC-3/Biophysics

	Practicals:	<ul style="list-style-type: none"> Continuous assay of lactate dehydrogenase. Bioinformatics Exercises: <ul style="list-style-type: none"> Databases: Protein data bank, Nucleic acid database, Genbank, Sequence alignment using BLASTn, BLASTp, CLUSTALW. Gene finding tools- GenScan, GLIMMER. 	BSc. (H) Biochemistry FBCH	BCH CC- 4/ Enzymes
			PGD MB SEMESTER-II	PGD MB L204/ Biophysical techniques- II
	Tutorials:			
	Assignment			
APRIL	Theory:	<ul style="list-style-type: none"> Defects in protein folding. Diseases – Alzheimer’s and Prion based. Cooperativity between subunits and models to explain the phenomena - concerted and sequential models. Haemoglobin disorders. Introduction to protein structure databases. Insilico tools for viewing protein structures Degradation of purine and pyrimidine nucleotides: <ul style="list-style-type: none"> Digestion of nucleic acids, degradation of purine and pyrimidine nucleotides. Inhibitors of nucleotide metabolism. Disorders of purine and pyrimidine metabolism – Lesch-Nyhan syndrome, Gout, SCID, adenosine deaminase deficiency. Spectroscopic techniques: <ul style="list-style-type: none"> energy transfer, fluorescent probes in the study of fluorescence spectroscopy, static & dynamic quenching, protein, nucleic acids, Infra-red spectroscopy, light scattering in biology, circular dichroism, optical rotatory dispersion, magnetic resonance spectroscopy. 	BSc. (H) Biochemistry FBCH	BCH CC-3/Proteins
			BSc. (H) Biochemistry SBCH	BCH C-8/ Amino Acid and Nucleotide Metabolism
				BSc (H) Biological Sciences FBS
	Practicals:	<ul style="list-style-type: none"> Introduction to proteomics ProtParam, GOR, nnPredict, SWISSMODEL Visualization Softwares - Rasmol, JMOL Repetitions / Mock Repetitions / Mock 	PGD MB SEMESTER-II	PGD MB L204/ Biophysical techniques- II
			BSc. (H) Biochemistry FBCH	BCH CC- 4/ Enzymes GE -3/ Intermediary metabolism
	Tutorials:			
	Test			



Dr. Ravindra Varma Polisetty

SEMESTER WISE TEACHING PLAN (2016-2017)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr JITA MISHRA
Political Science

Department:

Semester : II/IV/VI INDIA'S FOREIGN POLICY IN A

GLOBALISING WORLD

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	India,s foreign policy from a post colonial state to an aspiring global power	BaHons political science III YEAR VI Semester	Paper 5.3f India's foreign policy in a globalizing world
	Practicals			
	Tutorials	determinants		
FEBRUAR Y	Theory:	India's relations with USA and USSR		
	Practicals:			
	Tutorials:	INDO SOVIET TREATY		

	<u>Assignment</u> :	Discuss India and Russia relations in the 1990's		
MARCH	Theory:	India china relations		
	Practicals:			
	Tutorials:	Border dispute		
	<u>Test</u>	Discuss India -china relation with special reference to the border dispute and the Tibetan issue		
APRIL	Theory:	India in South Asia debating regional strategies		
	Practicals:			
	Tutorials:	India and Nepal		



SEMESTER WISE TEACHING PLAN (2016-2017)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr Jita mishra
Department: POLITICAL SCIENCE

Semester : II/IV/VI Modern political philosophy

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Modernity and its discourses	Ba Hons political science III year VI Semester	6.1 Modern Political philosophy
	Practicals			
	Tutorials	Modernity		
FEBRUARY	Theory:	Romantics Rousseau		
	Practicals:			
	Tutorials:	General will		

	<u>Assignment</u> :	Rousseau General will		
MARCH	Theory:	Mary Wollstonecraft Js mill		
	Practicals:			
	Tutorials:	Womens education		
	<u>Test</u>	Critically evaluate JSMill defence of liberty.		
APRIL	Theory:	KARL MARX		
	Practicals:			
	Tutorials:	SURPLUS VALUE		

MAY	Theory:	Alexandra kollontai		
	Practicals:			
	Tutorials:	A Kollantai		

MAY	Theory:	Trade environment and security regimes India in a contemporary multipolar world		
	Practicals:			
	Tutorials:	India as an emerging power		



SEMESTER WISE TEACHING PLAN

SRI VENKATESWARA COLLEGE

January-June, 2017

Name of the Faculty: Dr SANTOSH KUMAR SINGH

Department: POLITICAL SCIENCE

Semester: B.A (H)-VIth

Month		Topics	Course	Paper Code/Name
January	Theory:	Understanding modern political philosophy Theory vs Philosophy, Science vs Philosophy Text and Interpretation	B.A (H)	Modern Political Philosophy/Paper XVII
		Knowledge vs Ideas Forms vs Ideas Metaphysics		
	Practicals:			
	Tutorials:	Relationship between science and Philosophy. Political Science as Science Political Science and Philosophy		
February	Theory:	Rousseau's Philosophy-State, Social Contract, General Will,		Modern Political Philosophy/Paper XVII
	Practicals:			

	Tutorials:	Birth of Hobbes, Hobbes in Philosophy			
March	Theory:	John Locke-Rights, Social Contract, State, French Revolution Rousseau's Birth, Rousseau-Social Contract, State		Modern Political Philosophy/Paper XVII	
	Practicals:				
		Tutorials:	Comparison between Hobbes, Locke and Rousseau. Social Contract in Philosophy		
	Assignment	Critically examine the contributions of Immanuel Kant in the Enlightenment tradition in modern political philosophy. What is 'Modernity'? Examine the role of the enlightenment tradition in enriching the modern political philosophy			
April	Theory	J S Mill on Representative Government Liberty, Expression and Women. MARX Class, State, Philosophy		Modern Political Philosophy/Paper XVII	
	Practicals:				

	Tutorials:	<p>Where there is no common power, there is no law where no law, there is no justice (Hobbes). In the light of this discuss Hobbes's</p> <p>The theory of Social Contract as developed by Hobbes has its own problems. What main problems do you see in it?</p>		
	Mid Term Test	<p>Why is Karl Marx regarded as the founder of scientific socialism? Would you describe him as evolutionary or revolutionary socialist?</p> <p>Rousseau's theory of General Will "is a strange mixture of utopian idealism and plain common sense." Discuss Rousseau's political philosophy was so vogue that it could hardly be said to point in any specific direction' (Sabine). How Far do you agree with it?</p>		
May	Theory:	<p>Marx Philosophy, State, Class, Revolution, Marx and Modernity</p> <p>Marx and Science</p>		Modern Political Philosophy/Paper XVII
	Practicals:			
	Tutorials:	<p>Discuss the views of J S Mill for securing Individual liberty in modern state. Is it correct to say that he was prophet of an empty liberty?</p> <p>What are the dangers of representative government, according to J S Mill? What safeguards against these dangers does he prescribe?</p> <p>"Rousseau's political philosophy was so vague that it could hardly be said to point in any specific direction" (Sabine). How far do you agree with it?</p> <p>"I found the Hegelian dialectics standing on its head. I put it down on its feet" (Karl Marx). Critically examine the statement, Did Karl Marx succeed in his attempt?</p>		



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
January-June, 2017

Name of the Faculty: Dr SANTOSH KUMAR SINGH

Department: POLITICAL SCIENCE

Semester: B.A (H)-VIth

Month		Topics	Course	Paper Code/Name	
January	Theory:	Understanding modern political philosophy Theory vs Philosophy, Science vs Philosophy Text and Interpretation	B.A (H)	Modern Political Philosophy/Paper XVII	
		Knowledge vs Ideas Forms vs Ideas Metaphysics			
	Practicals:				
		Tutorials:	Relationship between science and Philosophy. Political Science as Science Political Science and Philosophy		
February	Theory:	Rousseau's Philosophy-State, Social Contract, General Will,		Modern Political Philosophy/Paper XVII	

	Practicals:				
	Tutorials:	Birth of Hobbes, Hobbes in Philosophy			
March	Theory:	John Locke-Rights, Social Contract, State, French Revolution Rousseau's Birth, Rousseau-Social Contract, State		Modern Political Philosophy/Paper XVII	
	Practicals:				
		Tutorials:	Comparison between Hobbes, Locke and Rousseau. Social Contract in Philosophy		
Assignment	Critically examine the contributions of Immanuel Kant in the Enlightenment tradition in modern political philosophy. What is 'Modernity'? Examine the role of the enlightenment tradition in enriching the modern political philosophy				
April	Theory	J S Mill on Representative Government Liberty, Expression and Women. MARX Class, State, Philosophy		Modern Political Philosophy/Paper XVII	

	Practicals:			
	Tutorials:	Where there is no common power, there is no law where no law, there is no justice (Hobbes). In the light of this discuss Hobbes's The theory of Social Contract as developed by Hobbes has its own problems. What main problems do you see in it?		
	Mid Term Test	Why is Karl Marx regarded as the founder of scientific socialism? Would you describe him as evolutionary or revolutionary socialist?		
		Rousseau's theory of General Will "is a strange mixture of utopian idealism and plain common sense." Discuss Rousseau's political philosophy was so vogue that it could hardly be said to point in any specific direction' (Sabine). How Far do you agree with it?		
May	Theory:	Marx Philosophy, State, Class, Revolution, Marx and Modernity Marx and Science		Modern Political Philosophy/Paper XVII
	Practicals:			
	Tutorials:	Discuss the views of J S Mill for securing Individual liberty in modern state. Is it correct to say that he was prophet of an empty liberty? What are the dangers of representative government, according to J S Mill? What safeguards against these dangers does he prescribe? "Rousseau's political philosophy was so vague that it could hardly be said to point in any specific direction" (Sabine). How far do you agree with it? "I found the Hegelian dialectics standing on its head. I put it down on its feet" (Karl Marx). Critically examine the statement, Did Karl Marx succeed in his attempt?		

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SEMESTER WISE TEACHING PLAN (2016-2017)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Namita Pandey

Department: Political Science

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name		
JANUARY	Theory	<p>Globalisation - Concepts and Perspectives:</p> <p>Understanding globalisation and its alternative perspectives with reference to hyperglobalists, skeptics and transformational debate.</p> <p>Political: Debates on Sovereignty and Territoriality</p> <p>Global Economy - Its significance. Anchors of Global Economy: A critical analysis of the working of World Bank, IMF, WTO, Transnational Corporations</p>	BA(Hons) Pol. Sc. 4th Semester	Global Politics		
	Practicals					
	Tutorials	Discussion on Robert Keohane, Susan Strange, Concept of Sovereignty				
FEBRUARY	Theory:	Culture and technological dimensions: Culture and Globalisation with reference to convergence, differentiation and diffusion of culture				

		<p>Globalisation and Technology: Technological Facilitation of Globalization and its impact.</p> <p>Global Resistance Movement: A) Global Social Movement B)NGO's</p>		
	Practicals:			
	Tutorials:	<p>Discussion on Samuel Huntington's Clash of Civilization and Benjamin Barber's Article on Mcworld vs Jihad</p>		

	<u>Assignment</u> :	Define Globalisation; Discuss Alternative perspectives of Globalization		
MARCH	Theory:	Contemporary Global Issues Ecological Issues Proliferation of Nuclear Weapons International Terrorism, Non-State Actors and State Terrorism; Post 9-11 developments		
	Practicals:			
	Tutorials:	Discussion of Non Proliferation Treaty and its impact.		
	<u>Test</u>	Discuss the concept of Political with special reference to debates of Sovereignty & Territoriality Critically examine the working of the WTO Write an Essay on Global Social Movements		
APRIL	Theory:	Migration: Definition and nature of international migration Human Security - Difference between traditional and human security; Components of Human Security		
	Practicals:			

	Tutorials:	Presentation on Food Insecurity in India		
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MAY	Theory:	Global Shifts: Power and Governance		
	Practicals:			
	Tutorials:	Discussion on Major Shifts in the nature of power and governance post 1990		



SEMESTER WISE TEACHING PLAN (2016-2017)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Kanwar Singh

Department: Sanskrit

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	SECTION 'A': UPANISHAD: ISAVASYOPNISAD	B.A. 1 ST YEAR (H) AECC	MIL-B1 UPANISHAD AND GITA
		SECTION 'A': MAHAKVYA AND CHARITAKAVYA	B.A. 2 ND YEAR (H)	C-9 MODERN SANSKRIT LITERATURE
		SECTION 'A': ANUVAAD UNIT I: KARAK VIBHAKTI UNIT II: VACHYA PARIVATAN	B.A. 3 RD YEAR (H)	21 PROFICIENCY IN SANSKRIT LANGUAGE
		SECTION 'A': INDIVIDUAL UNIT I, II	B.A. 1 ST YEAR (H) G.E.	GE-10 INDIVIDUAL, FAMILY AND COMMUNITY INSOCIAL THOUGHT
		GITA CHAPTER II	B.A. 3 RD YEAR (H) D.C.C.	GITA AND SWAPNAVASAVDAT TAM
	Tutorials	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
FEBRUARY	Theory:	SECTION 'B': GITA: CHAPTER II UNIT I	B.A. 1 ST YEAR (H) AECC	MIL-B1 UPANISHAD AND GITA

	SECTION 'B': GADYAKAVYA AND RUPAKA	B.A. 2 ND YEAR (H)	C-9 MODERN SANSKRIT LITERATURE
	SECTION 'A': ANUVAAD UNIT III: SAMAS, SANKYA AND KRIT- TAGHIT PRATYA UNIT IV: ANUVAAD	B.A. 3 RD YEAR (H)	21 PROFICIENCY IN SANSKRIT LANGUAGE
	SECTION 'A': INDIVIDUAL UNIT III, IV	B.A. 1 ST YEAR (H) G.E.	GE-10 INDIVIDUAL, FAMILY AND COMMUNITY INSOCIAL THOUGHT
	SWAPNAVASAVDAT TAM UNIT I	B.A. 3 RD YEAR (H) D.C.C.	GITA AND SWAPNAVASAVDAT TAM
Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

	<u>Assignment :</u>	ASSIGNMENTS WILL BE GIVEN REGARDING THE TOPICS		
MARCH	Theory:	SECTION 'B': GITA: CHAPTER II UNIT II	B.A. 1 ST YEAR (H) AECC	MIL-B1 UPANISHAD AND GITA
		SECTION 'C': GITIKAVYA AND OTHER GENRES	B.A. 2 ND YEAR (H)	C-9 MODERN SANSKRIT LITERATURE
		SECTION 'B': NIBANDH UNIT I: NIBANDH LEKHAN KALA UNIT II: PARUMPARIK VISHYO PAR AADHARIT JEEVAN	B.A. 3 RD YEAR (H)	21 PROFICIENCY IN SANSKRIT LANGUAGE
		SECTION 'B': FAMILY	B.A. 1 ST YEAR (H) G.E.	GE-10 INDIVIDUAL, FAMILY AND COMMUNITY INSOCIAL THOUGHT
		SWAPNAVASAVDATAM UNIT II	B.A. 3 RD YEAR (H) D.C.C.	GITA AND SWAPNAVASAVDATAM
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
<u>Test</u>	TESTS WILL BE TAKEN TIMELY			
APRIL	Theory:	SECTION 'C': GENERAL INTRODUCTION TO UANISHADIC PHILOSOPHY	B.A. 1 ST YEAR (H) AECC	MIL-B1 UPANISHAD AND GITA

	SECTION 'D': GENERAL SURVEY OF MODERN SANSKRIT LITERATURE	B.A. 2 ND YEAR (H)	C-9 MODERN SANSKRIT LITERATURE
	SECTION 'B': NIBANDH UNIT III: SAMSAMYIK VISHYO PAR AADHARIT NIBANDH	B.A. 3 RD YEAR (H)	21 PROFICIENCY IN SANSKRIT LANGUAGE
	SECTION 'C': COMMUNITY	B.A. 1 ST YEAR (H) G.E.	GE-10 INDIVIDUAL, FAMILY AND COMMUNITY INSOCIAL THOUGHT
	GRAMMAR: SANDHI AND KARAK	B.A. 3 RD YEAR (H) D.C.C.	GITA AND SWAPNAVASAVDAT TAM
Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		



SEMESTER WISE TEACHING PLAN (2016-2017)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Kanwar Singh

Department: Sanskrit

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	SECTION 'A': UPANISHAD: ISAVASYOPNISAD	B.A. 1 ST YEAR (H) AECC	MIL-B1 UPANISHAD AND GITA
		SECTION 'A': MAHAKVYA AND CHARITAKAVYA	B.A. 2 ND YEAR (H)	C-9 MODERN SANSKRIT LITERATURE
		SECTION 'A': ANUVAAD UNIT I: KARAK VIBHAKTI UNIT II: VACHYA PARIVATAN	B.A. 3 RD YEAR (H)	21 PROFICIENCY IN SANSKRIT LANGUAGE
		SECTION 'A': INDIVIDUAL UNIT I, II	B.A. 1 ST YEAR (H) G.E.	GE-10 INDIVIDUAL, FAMILY AND COMMUNITY INSOCIAL THOUGHT
		GITA CHAPTER II	B.A. 3 RD YEAR (H) D.C.C.	GITA AND SWAPNAVASAVDAT TAM
	Tutorials	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
FEBRUARY	Theory:	SECTION 'B': GITA: CHAPTER II UNIT I	B.A. 1 ST YEAR (H) AECC	MIL-B1 UPANISHAD AND GITA

	SECTION 'B': GADYAKAVYA AND RUPAKA	B.A. 2 ND YEAR (H)	C-9 MODERN SANSKRIT LITERATURE
	SECTION 'A': ANUVAAD UNIT III: SAMAS, SANKYA AND KRIT- TAGHIT PRATYA UNIT IV: ANUVAAD	B.A. 3 RD YEAR (H)	21 PROFICIENCY IN SANSKRIT LANGUAGE
	SECTION 'A': INDIVIDUAL UNIT III, IV	B.A. 1 ST YEAR (H) G.E.	GE-10 INDIVIDUAL, FAMILY AND COMMUNITY INSOCIAL THOUGHT
	SWAPNAVASAVDAT TAM UNIT I	B.A. 3 RD YEAR (H) D.C.C.	GITA AND SWAPNAVASAVDAT TAM
Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

	<u>Assignment :</u>	ASSIGNMENTS WILL BE GIVEN REGARDING THE TOPICS		
MARCH	Theory:	SECTION 'B': GITA: CHAPTER II UNIT II	B.A. 1 ST YEAR (H) AECC	MIL-B1 UPANISHAD AND GITA
		SECTION 'C': GITIKAVYA AND OTHER GENRES	B.A. 2 ND YEAR (H)	C-9 MODERN SANSKRIT LITERATURE
		SECTION 'B': NIBANDH UNIT I: NIBANDH LEKHAN KALA UNIT II: PARUMPARIK VISHYO PAR AADHARIT JEEVAN	B.A. 3 RD YEAR (H)	21 PROFICIENCY IN SANSKRIT LANGUAGE
		SECTION 'B': FAMILY	B.A. 1 ST YEAR (H) G.E.	GE-10 INDIVIDUAL, FAMILY AND COMMUNITY INSOCIAL THOUGHT
		SWAPNAVASAVDATAM UNIT II	B.A. 3 RD YEAR (H) D.C.C.	GITA AND SWAPNAVASAVDATAM
	Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		
	<u>Test</u>	TESTS WILL BE TAKEN TIMELY		
APRIL	Theory:	SECTION 'C': GENERAL INTRODUCTION TO UANISHADIC PHILOSOPHY	B.A. 1 ST YEAR (H) AECC	MIL-B1 UPANISHAD AND GITA

	SECTION 'D': GENERAL SURVEY OF MODERN SANSKRIT LITERATURE	B.A. 2 ND YEAR (H)	C-9 MODERN SANSKRIT LITERATURE
	SECTION 'B': NIBANDH UNIT III: SAMSAMYIK VISHYO PAR AADHARIT NIBANDH	B.A. 3 RD YEAR (H)	21 PROFICIENCY IN SANSKRIT LANGUAGE
	SECTION 'C': COMMUNITY	B.A. 1 ST YEAR (H) G.E.	GE-10 INDIVIDUAL, FAMILY AND COMMUNITY INSOCIAL THOUGHT
	GRAMMAR: SANDHI AND KARAK	B.A. 3 RD YEAR (H) D.C.C.	GITA AND SWAPNAVASAVDAT TAM
Tutorials:	TUTORIALS REGARDING THE TOPICS WILL BE TAKEN.		

Department of Mathematics
Sri Venkateswara College
Even Semester Teaching Plan (Jan-April 2017)

MS. SHAKUNTLA WADHWA

Month		Topics	Course	Paper Code/Name
Jan	Theory	Linear Diophantine equation, prime counting function, statement of prime number theorem, Goldbach conjecture, linear congruence, complete set of residues, Chinese remainder theorem, Fermat's little theorem, Wilson's theorem	B.Sc(H) Maths Sem-VI	Number Theory
	Tutorials:	To Discuss the doubt of students and to solve various exercise of Linear Diophantine equation, prime counting function, statement of prime number theorem, Goldbach conjecture, linear congruences, complete set of residues, Chinese remainder theorem, Fermat's little theorem, Wilson's theorem.	B.Sc(H) Maths Sem-VI	Number Theory
	Practicals	1. Plotting of second and third order respective solution family of differential equation. 2. Growth and decay model (exponential case only). 3. (a) Lake pollution model (with constant/seasonal flow and pollution concentration). (b) Case of single cold pill and a course of cold pills. (c) Limited growth of population (with and without harvesting).	B.Sc(H) Maths Sem-II A	Differential Equations
	Practicals	1. Solution of Cauchy problem for first order PDE. 2. Plotting the characteristics for the first order PDE. 3. Plot the integral surfaces of a given first order PDE with initial data	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations

Feb	Theory	Number theoretic functions, sum and number of divisors, totally multiplicative functions, definition and properties of the Dirichlet product, the Möbius inversion formula, the greatest integer function, Euler's phi-function, Euler's theorem, reduced set of residues, some properties of Euler's phi-function.	B.Sc(H) Maths Sem-VI	Number Theory
	Tutorials:	To discuss the doubt of students and to solve various exercise of number theoretic functions, sum and number of divisors, totally multiplicative functions, definition and properties of the Dirichlet product, the Möbius inversion formula, the greatest integer function, Euler's phi-function, Euler's theorem, reduced set of residues, some properties of Euler's phi-function.	B.Sc(H) Maths Sem-VI	Number Theory
	Practicals	4. (a) Predatory-prey model (basic volterra model, with density dependence, effect of DDT, two prey one predator). (b) Epidemic model of influenza (basic epidemic model, contagious for life, disease with carriers). (c) Battle model (basic battle model, jungle warfare, long range weapons). 5. Plotting of recursive sequences, and study the convergence. 6. Find a value that will make the following inequality holds for all $m > n$.	B.Sc(H) Maths Sem-II A	Differential Equations

Practicals	Solution of wave equation for associated conditions, Solution of one-Dimensional heat equation for a homogeneous rod of length l with various examples.	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations
Test	To take class test related to syllabus and lab test related to above Practical.	B.Sc(H) Maths Sem-II A/IVB	ODE/PDE

March	Theory	Order of an integer modulo n , primitive roots for primes, composite numbers having primitive roots, Euler's criterion, the Legendre symbol and its properties, quadratic reciprocity.	B.Sc(H) Maths Sem-VI	Number Theory
	Tutorials:	To discuss the doubt of students and to solve various exercise of order of an integer modulo n , primitive roots for primes, composite numbers having primitive roots, Euler's criterion, the Legendre symbol and its properties, quadratic reciprocity.	B.Sc(H) Maths Sem-VI	Number Theory
	Practicals	7. Verify the Bolzano-Weierstrass theorem through plotting of sequences and hence identify convergent subsequences from the plot. 8. Study the convergence /divergence of infinite series of real numbers by plotting their sequences of partial sum. 9. Cauchy's root test by plotting n th roots. 10. D'Alembert's ratio test by plotting the ratio of n th and $(n+1)$ th term of the given series of positive terms.	B.Sc(H) Maths Sem-II A	Differential Equations

	Practicals	Solving systems of ordinary differential equations, Approximating solution to Initial Value Problems using approximate methods with various examples, To draw sequence of functions on given the interval and discuss the pointwise convergence.	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations
	Assignments	To give assignment related to syllabus		
	Test	To take internal test related to syllabus And internal lab test related to above Practicals.	B.Sc(H) Maths Sem-IV B/IIA	PDE/ODE
April	Theory	Quadratic congruence with composite moduli. Public key encryption, RSA encryption and decryption, the equation $x^2 + y^2 = z^2$, Fermat's Last Theorem and to revise whole syllabus, to discuss last previous year questions papers.	B.Sc(H) Maths Sem-VI	Number Theory
	Tutorials:	To discuss the doubt of students and to solve various exercise of quadratic congruence with composite moduli. Public key encryption, RSA encryption and decryption, the equation $x^2 + y^2 = z^2$, Fermat's Last Theorem.	B.Sc(H) Maths Sem-VI	Number Theory

Practicals	For the given various sequences given k find m such that given condition satisfied. For the given series, to calculate $\left \frac{a_{n+1}}{a_n} \right $ and $\left a_n \right ^{\frac{1}{n}}$, To revise whole syllabus.	B.Sc(H) Maths Sem-II A	Differential Equations
Practicals	Discuss the uniform convergence of sequence of functions with various examples and to revise whole syllabus.	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations
Test	To take test related to syllabus And internal lab related to above Practicals.	B.Sc(H) Maths Sem-IV B	PDE/ODE

Dr. R. K. BUDHRAJA

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Rings: Definition, examples & its properties, Subrings. Integral domains & Fields. Characteristic of ring.	B.Sc.(Hons) Maths II Year, Sem IV, Sec A	C 10 / Ring Theory & Linear Algebra – I
	Practicals	<ol style="list-style-type: none"> Plotting of recursive sequences. Study the convergence of sequences through plotting. 	B.Sc.(Hons) Maths II Year, Sem II, Sec B	C4/ Differential Equations
	Tutorials	Discussion of examples and exercises from Chapters 12 & 13. Doubts of the students, if any, are to be taken.	B.Sc.(Hons) Maths II Year, Sem IV	C 10 / Ring Theory & Linear Algebra – I
FEBRUARY	Theory	Ideals & ideal generated by a subset of a ring Factor Rings. Prime & Maximal ideals. Ring Homomorphisms & its properties, Isomorphism theorems I, II & III, Field of Quotients.	B.Sc.(Hons) Maths II Year, Sem IV, Sec A	C 10 / Ring Theory & Linear Algebra – I
	Practicals	<ol style="list-style-type: none"> Verify Bolzano Weierstrass theorem through plotting of sequences and hence identify convergent subsequences from the plot. Study the convergence/divergence of infinite series by plotting their sequences of partial sum. 	B.Sc.(Hons) Maths II Year, Sem II, Sec B	C4/ Differential Equations
	Tutorials	Discussion of examples and exercises from Chapters 14 & 15. Doubts of the students, if any, are to be taken.	B.Sc.(Hons) Maths II Year, Sem IV	C 10 / Ring Theory & Linear Algebra – I
MARCH	Theory	Vector Spaces, Subspaces, Quotient spaces, Linear span, independence, basis and dimension. Dimension of a subspace.	B.Sc.(Hons) Maths II Year, Sem IV, Sec A	C 10 / Ring Theory & Linear Algebra – I

	Practicals	5. Cauchy's root test by plotting n th roots. 6. Ratio test by plotting the ratio of n th and $(n+1)$ th term.	B.Sc.(Hons) Maths II Year, Sem II, Sec B	C4/ Differential Equations
	Tutorials	Discussion of examples and prescribed exercises from Chapter 1. Doubts of the students, if any, are to be taken.	B.Sc.(Hons) Maths II Year, Sem IV	C 10 / Ring Theory & Linear Algebra – I
	Assignment	Assignment of 10 marks will be given on any two of the above topics.	B.Sc.(Hons) Maths II Year, Sem IV, Sec A	C 10 / Ring Theory & Linear Algebra - I
APRIL	Theory	Linear transformations, Rank & nullity. Matrix representation, Isomorphism theorems, Invertibility and change of coordinate matrix.	B.Sc.(Hons) Maths II Year, Sem IV, Sec A	C 10 / Ring Theory & Linear Algebra - I
	Practicals	7. Convergence of Sequence by epsilon -K definition 8. Revision and Internal Test	B.Sc.(Hons) Maths II Year, Sem II, Sec B	C4/ Differential Equations
	Tutorials	Discussion of examples and prescribed exercises from Chapter 2. Doubts of the students, if any, are to be taken.	B.Sc.(Hons) Maths II Year, Sem IV	C 10 / Ring Theory & Linear Algebra - I
	Test	Class test of 10 marks will be taken for Internal Assessment.	B.Sc.(Hons) Maths II Year, Sem IV, Sec A	C 10 / Ring Theory & Linear Algebra - I

Dr. Mainak Mukherjee

Month		Topics	Course	Paper Code/Name
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Jan	Theory	Definition of Riemann integration, Inequalities for upper and lower Darboux sums, Necessary and sufficient conditions for the Riemann integrability, Definition of Riemann integration by Riemann sum and equivalence of the two definitions, Riemann integrability of monotone functions and continuous functions, Properties of Riemann integrable functions, Definitions of piecewise continuous and piecewise monotone functions and their Riemann integrability, intermediate value theorem for integrals.	B.Sc(H) Maths Sem-IV B	Riemann Integration & Series of Functions
	Theory	Significant digits, Error, Order of a method.	B.A(P) Sem-VI	Numerical Analysis
	Tutorials:	To Discuss the Doubt of students and to solve various exercise of Definition of Riemann integration, Inequalities for upper and lower Darboux sums, Necessary and sufficient conditions for the Riemann integrability, Definition of Riemann integration by Riemann sum and equivalence of the two definitions, Riemann integrability of monotone functions and continuous functions, Properties of Riemann integrable functions, Definitions of piecewise continuous and piecewise monotone functions and their Riemann integrability, intermediate value theorem for integrals.	B.Sc(H) Maths Sem-IVB	Riemann Integration & Series of Functions

	Practicals	<p>1. Declaring a complex number and graphical representation. e.g. $Z_1 = 3 + 4i$, $Z_2 = 4 - 7i$</p> <p>2. Program to discuss the algebra of complex numbers. e.g., if $Z_1 = 3 + 4i$, $Z_2 = 4 - 7i$, then find $Z_1 + Z_2$, $Z_1 - Z_2$, $Z_1 * Z_2$, and Z_1 / Z_2</p> <p>3. To find conjugate, modulus and phase angle of an array of complex numbers. e.g., $Z = [2 + 3i \ 4 - 2i \ 6 + 11i \ 2 - 5i]$</p> <p>4. To compute the integral over a straight line path between the two specified end points.</p>	B.Sc(H) Maths Sem-VI A	Analysis V
	Practicals	<p>1. Solution of Cauchy problem for first order PDE.</p> <p>2. Plotting the characteristics for the first order PDE.</p> <p>3. Plot the integral surfaces of a given first order PDE with initial data</p>	B.Sc(H) Maths Sem-IV A	C8 Partial Differential Equations
Feb	Theory	Fundamental theorems (I and II) of calculus, and the integration by parts, Improper integrals of Type-I, Type-II and mixed type, Convergence of Beta and Gamma functions, and their properties.	B.Sc(H) Maths Sem-IV B	Riemann Integration & Series of Functions
	Theory	Convergence and terminal conditions, Efficient computations.	B.A(P) Sem-VI	Numerical Analysis
	Tutorials:	To Discuss the Doubt of students and to solve various exercise of	B.Sc(H) Maths Sem-IV B	Riemann Integration & Series of Functions

Practicals	To perform contour integration, To plot the complex functions and analyze the graph and To perform the Taylor series expansion of a given function $f(z)$ around a given point z . The number of terms that should be used in the Taylor series expansion is given for each function. Hence plot the magnitude of the function and magnitude of its Taylors series expansion.	B.Sc(H) Maths Sem-VI A	Analysis V
Practicals	Solution of wave equation for associated conditions, Solution of one-Dimensional heat equation for a homogeneous rod of length l with various examples.	B.Sc(H) Maths Sem-IV A	C8 Partial Differential Equations
Test	To take class test related to syllabus And lab test related to above Practicals.	B.Sc(H) Maths Sem-IV B/IVA/VI B / BA(P)	

March	Theory	Pointwise and uniform convergence of sequence of functions, Theorem on the continuity of the limit function of a sequence of functions, Theorems on the interchange of the limit and derivative, and the interchange of the limit and integrability of a sequence of functions. Pointwise and uniform convergence of series of functions, Theorems on the continuity, Derivability and integrability of the sum function of a series of functions, Cauchy criterion and the	B.Sc(H) Maths Sem-IV B	Riemann Integration & Series of Functions
	Theory	Bisection method, Secant method, Regula-Falsi method, Newton-Raphson method,	B.A(P) Sem-VI	Numerical Analysis
	Tutorials:	To Discuss the Doubt of students and to solve various exercise of Pointwise and uniform convergence of sequence of functions, Theorem on the continuity of the limit function of a sequence of functions, Theorems on the interchange of the limit and derivative, and the interchange of the limit and integrability of a sequence of	B.Sc(H) Maths Sem-IV B	Riemann Integration & Series of Functions
	Practicals	To determines how many terms should be used in the Taylor series expansion of a given function $f(z)$ around $z = 0$ for a specific value of z to get a percentage error of less than 5 %, To perform Laurent's series expansion of a given function $f(z)$ around a given point z and To compute the poles and corresponding residues of complex functions.	B.Sc(H) Maths Sem-VI A	Analysis V
	Practicals	Solving systems of ordinary differential equations, Approximating solution to Initial Value Problems using approximate methods with various examples, To draw sequence of functions on given the interval and discuss the pointwise convergence	B.Sc(H) Maths Sem-IV A	C8 Partial Differential Equations

	Assignments	To give assignment related to syllabus		
	Test	To take internal test related to syllabus And internal lab test related to above Practicals		
April	Theory	Definition of a power series, Radius of convergence, Absolute convergence (Cauchy-Hadamard theorem), Uniform convergence, Differentiation and integration of power series, Abel's Theorem to Revise whole syllabus, to Discuss last previous year questions papers	B.Sc(H) Maths Sem-IV B	Riemann Integration & Series of Functions
	Theory	Newton's method for solving nonlinear systems and to Revise whole syllabus, to Discuss last previous year questions papers	B.A(P) Sem-VI	Numerical Analysis
	Tutorials:	To Discuss the Doubt of students and to solve various exercise of Definition of a power series, Radius of convergence, Absolute convergence (Cauchy-Hadamard theorem), Uniform convergence, Differentiation and integration of power series, Abel's Theorem to Revise whole syllabus, to Discuss last previous year questions papers.	B.Sc(H) Maths Sem-IV B	Riemann Integration & Series of Functions
	Practicals	Computing the Fourier Series, Fourier Sine Series, Fourier Cosine Series of function and their graph and to revise whole Practical	B.Sc(H) Maths Sem-VI A	Analysis V
	Practicals	Discuss the uniform convergence of sequence of functions with various examples and to revise whole Practical.	B.Sc(H) Maths Sem-IV A	C8 Partial Differential Equations

Ms Pratibha Gaur

		Topics	Course	Paper Code/Name
Jan	Theory	Introduction, classification, Construction and geometrical interpretation of first order partial differential equations(PDE), method of characteristic and general solution of first order PDE, canonical form of first order PDE, method of separation of variables for first order PDE.	B.Sc. (H) Maths Sem-IV	C8:Partial Differential Equations.
	Practical s	3. Plotting of recursive sequences. 4. Study the convergence of sequences through plotting.	B.Sc. (H) Maths Sem-II	C4 : Differential equations
	Practical s	1. Solution of Cauchy problem for first order PDE. 2. Plotting the characteristics for the first order PDE.	B. Sc. (H) Maths Sem IV	C8: Partial Differential Equations
	Tutorials	To discuss the doubts of student and various exercise, questions and examples related to definition and examples of rings, properties of rings, subrings, integral domains and fields, Characteristic of ring, Ideals, Ideals generated by a subset of ring, Factor rings, Operations of ideals, Prime and maximal ideals	B. Sc. (H) Maths Sem IV	Ring Theory and Linear Algebra-I
Feb	Theory	Mathematical modeling of vibrating string, vibration membrane, conduction of heat in solids, gravitational potential, conservation of law and Burger's equations, classification of second order PDE, reduction to canonical forms, equations with constant coefficients, general solution.	B.Sc(H) Maths Sem-IV	Partial Differential Equations
	Practicals	5. Verify Bolzano Weierstrass theorem through plotting of sequences and hence identify convergent subsequences from the plot. 6. Study the convergence/divergence of infinite series by plotting their sequences of partial sum.	B.Sc. (H) Maths Sem-II	C 4: Differential equations

	Practicals	3) Plot the integral surfaces of a given first order PDE with initial data. 4) Solution of wave equation	B.Sc.(H) Maths Sem IV	C8: Partial Differential Equations
	Tutorials	To discuss the doubt of students and various exercise questions and examples related to Ring homomorphisms, Properties of ring homomorphisms, First, Second and Third Isomorphism theorems for rings, The Field of quotients. Unit 3: Introduction of Vector Spaces, Vector spaces, Subspaces	B.Sc(H) Maths Sem-IV	Ring Theory and Linear Algebra-I
March	Theory	Cauchy problem for second order PDE, homogeneous wave equation, initial boundary value problems, non-homogeneous boundary conditions, finite strings with fixed ends, non-homogeneous wave equation, Riemann problem, Goursat problem, spherical and cylindrical wave equation.	B.Sc(H) Maths Sem-IV	Analysis V
	Practicals	7. Cauchy's root test by plotting nth roots. 8. Ratio test by plotting the ratio of nth and n+1th term.	B.Sc. (H) Maths Sem-II	C 4 Differential Equations
	Practicals	5) Solution of one-Dimensional heat equation 6) Solving systems of ordinary differential equations.	B.Sc. (H) Maths Sem-IV	C8: Partial Differential Equations
	Tutorials	To discuss the doubt of students and various exercise questions and examples related Quotient spaces, Linear combination of vectors, Linear span, Linear independence, Basis and dimension, Dimension of subspaces. Unit 4: Linear Transformations Linear transformations, Null space, Range, Rank and nullity of a linear transformation	B.Sc. (H) Maths Sem-IV	Ring Theory and Linear Algebra-I
	Assignments	To give assignment related to syllabus	B.Sc(H) Maths Sem- IV	C8:PARTIAL DIFFERENTIAL EQUATIONS
	Test	To take internal test related to syllabus.	B.Sc(H) Maths Sem-IV	C8:PARTIAL DIFFERENTIAL EQUATIONS

April	Theory	Method of separation of variables for second order PDE, vibrating string problem, existence and uniqueness of solution of vibrating string problem, heat conduction problem, existence and uniqueness of solution of heat conduction problem, Laplace and beam equation, non-homogeneous problem	B.Sc(H) Maths Sem-IV	Partial Differential Equations
	Practicals	9. Convergence of Sequence by epsilon -K definition 10. Revision and Internal Test	B.Sc(H) Maths Sem-II	C 4 Differential Equations
	Practicals	To revise all the practicals and to conduct internal test.	B.Sc(H) Maths Sem-IV	C8 Partial Differential equations
	Tutorials	To discuss the doubt of students and various exercise questions and examples related Matrix representation of a linear transformation, Algebra of linear transformations, Isomorphism, Isomorphism theorems, Invertibility and the change of coordinate matrix.	B.Sc(H) Maths Sem-IV	Ring Theory and Linear Algebra-I

Ninian Nauneet Kujur

Month		Topics	Course	Paper Code/Name
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January	Theory	Algebraic and Order Properties of \mathbb{R} , δ -neighborhood of a point in \mathbb{R} , Idea of countable sets, uncountable sets and uncountability of \mathbb{R} . Bounded above sets, Bounded below sets, Bounded Sets, Unbounded sets, Suprema and Infima, The Completeness Property of \mathbb{R} , The Archimedean Property, Density of Rational (and Irrational) numbers in \mathbb{R} , Intervals.	B.Sc(H) Maths Sem-II (B)	Real Analysis
	Theory	De Moivre's theorem (both integral and rational index). Solutions of equations using trigonometry	BA(P) Sem II	Algebra

	Practicals	Mathematica: Plotting functions of two variables using Plot3D, ContourPlot, plotting parametric curves and surfaces, customizing plots, animating plots, producing table of values, working with piecewise defined functions, combining graphics, simple programming in Mathematica.	B.Sc(H) Maths Sem-IV(A)	CAS and related softwares (SEC-II)
	Practicals	1. Solution of Cauchy problem for first order PDE. 2. Plotting the characteristics for the first order PDE.	B.Sc(H) Maths Sem-IV(A)	C8- Partial Differential Equations
	Tutorials	Questions related to the portion covered .	B.Sc(H) Maths Sem-II (B)	Real Analysis
February	Theory Assignment Assignment	Limit points of a set, Isolated points, Illustrations of Bolzano-Weierstrass theorem for sets. Sequences, Bounded sequence, Convergent sequence, Limit of a sequence. Limit Theorems,	B.Sc(H) Maths Sem-II (B)	Real Analysis
	Theory Assignment	Expansion for $\cos nx$. $\sin nx$ in terms of powers of $\sin x$, $\cos x$, and $\cos^n x$, $\sin^n x$ in terms of Cosine and Sine of multiples of x , Summation of series	BA(P) Sem II	Algebra

Practicals	Exercises based on Mathematica and R: working with matrices, performing gauss elimination, operations like transpose, determinant, inverse of matrices, minors, cofactors, working with large matrices, solving of linear equations, rank and nullity of a matrix, eigen values, eigen vectors	B.Sc(H) Maths Sem-IV(A)	CAS and related softwares (SEC-II)
Practicals	3. Plot the integral surfaces of a given first order PDE with initial data. 4. Solution of wave equation associated with initial conditions.	B.Sc(H) Maths Sem-IV(A)	C8-Partial Differential Equations
Tutorials	Questions related to the portion covered	B.Sc(H) Maths Sem-II (B)	Real Analysis

March	Theory	Monotone Sequences, Monotone Convergence Theorem, Subsequences, Divergence Criteria, Monotone Subsequence Theorem (statement only), Bolzano Weierstrass Theorem for Sequences. Cauchy sequence, Cauchy's Convergence Criterion. Infinite series, convergence and divergence of infinite series,.	B.Sc(H) Maths Sem-II (B)	Real Analysis
	Test			
	Theory	Relation between roots and coefficients of n^{th} degree equation. Solutions of cubic and biquadratic equations, when some conditions on roots of the equation are given,	BA(P) Sem II	Algebra
	Test			
	Practicals:	Exercises based on R: types and structure of data items with their properties, manipulating vectors, data frames, matrices and lists, viewing objects within objects, constructing data objects and conversions, summary commands, summary statistics for vectors, data frames, matrices and lists, summary tables, stem and leaf plot, histogram	B.Sc(H) Maths Sem-IV(A)	CAS and related softwares (SEC-II)

	Practicals	5. Solution of one-Dimensional heat equation , for a homogeneous rod of length l . 6. Solving systems of ordinary differential equations.	B.Sc(H) Maths Sem-IV(A)	C8-Partial Differential Equations
	Tutorials	Questions related to the portion covered	B.Sc(H) Maths Sem-II (B)	Real Analysis
April	Theory:	Cauchy Criterion, Tests for convergence: Comparison test, Limit Comparison test, Ratio Test, Cauchy's n th root test, Integral test, Alternating series, Leibniz test, Absolute and Conditional convergence	B.Sc(H) Maths Sem-II (B)	Real Analysis
	Theory	Symmetric functions of the roots for cubic and biquadratic equations.	BA(P) Sem II	Algebra
	Assignment			
	Practicals	Plotting in R: Box whisker plots, scatter plot, pairs plot, line charts, pie charts, Cleveland dot charts, bar charts, explore data and relations, saving graphs and revision.	B.Sc(H) Maths Sem-IV(A)	CAS and related softwares (SEC-II)

	Practicals	7. Approximating solution to Initial Value Problems using any of the following approximate methods: (a) The Euler Method (b) The Modified Euler Method. (c) The Runge-Kutta Method. Comparison between exact and approximate results for any representative differential equation.	B.Sc(H) Maths Sem-IV(A)	C8-Partial Differential Equations
	Tutorials	Questions related to the portion covered	B.Sc(H) Maths Sem-II (B)	Real Analysis

Amit Kumar

Month		Topics	Course	Paper Code/Name
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Jan	Theory	Definition of Riemann integration, Inequalities for upper and lower Darboux sums, Necessary and sufficient conditions for the Riemann integrability, Definition of Riemann integration by Riemann sum and equivalence of the two definitions, Riemann integrability of monotone functions and continuous functions, Properties of Riemann integrable functions, Definitions of piecewise continuous and piecewise monotone functions and their Riemann integrability, intermediate value theorem for integrals.	B.Sc(H) Maths Sem-IV A	Riemann Integration & Series of Functions
	Tutorials	To Discuss the Doubt of students and to solve various exercise of Definition of Riemann integration, Inequalities for upper and lower Darboux sums, Necessary and sufficient conditions for the Riemann integrability, Definition of Riemann integration by Riemann sum and equivalence of the two definitions, Riemann integrability of monotone functions and continuous functions, Properties of Riemann integrable functions, Definitions of piecewise continuous and piecewise monotone functions and their Riemann integrability, intermediate value theorem for integrals.	B.Sc(H) Maths Sem-IV A	Riemann Integration & Series of Functions
	Theory	Introduction of Differential equation, Ordinary and partial differential equations, First order exact differential equations, Integrating factors and rules to find integrating factors, Examples and Exercise Questions	B.Sc(H) Maths Sem-II A and B	Differential Equaton

Practicals	1. Solution of first order differential equation. 2. Plotting of second order solution family of differential equation. 3. Plotting of third order solution family of differential equation.	B.Sc(H) Maths Sem-II	Differential Equations
Test	To take class test related to syllabus and lab test related to above Practical.	B.Sc(H) Maths Sem-II and IV	Riemann Integration & Series of Functions And Differential Equations

Feb	Theory	Fundamental theorems (I and II) of calculus, and the integration by parts, Improper integrals of Type-I, Type-II and mixed type, Convergence of Beta and Gamma functions, and their properties.	B.Sc(H) Maths Sem-IV A	Riemann Integration & Series of Functions
	Tutorias	To Discuss the Doubt of students and to solve various exercise questions of related above topics	B.Sc(H) Maths Sem-IV A	Riemann Integration & Series of Functions
	Theory	Linear equations and Bernoulli equations, Basic theory of higher order linear differential equations, Wronskian and its properties; Solving differential equation by reducing its order. Related examples and exercise questions.	B.Sc(H) Maths Sem-II	Differential Equation
	Assignmens	To be given assignment related to syllabus.	B.Sc(H) Maths Sem-II and Sem-IV	Riemann Integration & Series of Functions /Differential Equation
	Practicals	4. Solution of differential equation by variation of parameter method. 5. Solution of system of ordinary differential equations. 6. Solution of Cauchy problem for first order partial differential equations		Differential Equation
March	Theory	Pointwise and uniform convergence of sequence of functions, Theorem on the continuity of the limit function of a sequence of functions, Theorems on the interchange of the limit and derivative, and the interchange of the limit and integrability of a sequence of functions. Pointwise and uniform convergence of series of functions, Theorems on the continuity, Derivability and integrability of the sum function of a series of functions, Cauchy criterion and the Weierstrass M-Test for uniform convergence.	B.Sc(H) Maths Sem-IV A	Riemann Integration & Series of Functions

Tutorials	To discuss the doubt of students and various exercise questions and examples related work done in Theory Class.	B.Sc(H) Maths Sem-IV A	Riemann Integration & Series of Functions
Theory	Linear homogenous equations with constant coefficients, Linear non-homogenous equations, Method of undetermined coefficients.	B.Sc(H) Maths Sem-II	Differential Equation
Practicals	7. Plotting the characteristics of the first order partial differential equations. 8. Plot the integral surfaces of first order partial differential equations with initial data.	B.Sc(H) Maths Sem-II	Differential Equations
Test	To take internal test related to syllabus And internal lab test related to above Practical.	B.Sc(H) Maths Sem-II/ IV	Riemann Integration & Series of Functions / Differential Equation

April	Theory	Definition of a power series, Radius of convergence, Absolute convergence (Cauchy-Hadamard theorem), Uniform convergence, Differentiation and integration of power series, Abel's Theorem to Revise whole syllabus, to Discuss last previous year questions papers	B.Sc(H) Maths Sem-IV A	Riemann Integration & Series of Functions
	Tutorials	To discuss the doubt of students and various exercise questions and examples related to Properties of Cauchy-Hadamard theorem and Uniform convergence, Differentiation and integration of power series, Abel's Theorem	B.Sc(H) Maths Sem-IV B	Riemann Integration & Series of Functions
	Theory	Method of variation of parameters, Cauchy-Euler equations, Simultaneous differential equations and revise whole syllabus, to discuss last previous year questions papers.	B.Sc(H) Maths Sem-II	Differential Equation
	Practicals	Revision of Practicals	B.Sc(H) Maths Sem-II	Differential Equations

Nisha Bohra

		Topics	Course	Paper Code/Name
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Jan	Theory	Review of complex plane, sequences and series, polygonally connected sets, stereographic projection, analytic polynomials, power series, Analytic functions, examples of analytic functions.	B.Sc. (H) Maths Sem-VI B	Analysis V
	Theory	Properties of external direct products, the group of units modulo n as an external direct product, internal direct products.	B.Sc. (H) Maths Sem VI-A	Algebra V
	Theory	Fundamental operation with vectors in Euclidean space \mathbb{R}^n , Linear combination of vectors, Dot product and their properties, Cauchy–Schwarz inequality, Triangle inequality, Projection vectors.	B.Sc.(H) Chemistry, Bio. Sc., Bio. Chem., Electronics.	GE-II: Linear Algebra
	Tutorials	To Discuss the Doubts of students and to solve various exercise questions based on topics covered in the class.	B.Sc. (H) Maths Sem-VI A and B	Analysis V and Algebra V
	Practical s	11. Plotting of recursive sequences. 12. Study the convergence of sequences through plotting.	B.Sc. (H) Maths Sem-I B	C4 : Differential equations
	Practicals	1. Solution of Cauchy problem for first order PDE. 2. Plotting the characteristics for the first order PDE.	B. Sc. (H) Maths Sem II A	C8: Partial Differential Equations
Feb	Theory	Exponential function, Logarithmic function, trigonometric functions, Cauchy Riemann equations, Line integrals and their properties, Cauchy integral formula, Taylor expansion, Liouville's theorem and fundamental theorem of Algebra	B.Sc(H) Maths Sem-VI B	Analysis V
	Theory	Fundamental Theorem of finite abelian groups. Group actions, stabilizers and kernels, permutation representation associated with a given group action.	B.Sc. (H) Maths Sem-VI A	Algebra V

	Theory	Some elementary results on vector in \mathbb{R}^n , Matrices, Gauss–Jordan row reduction, Reduced row echelon form.	B.Sc.(H) Chemistry, Bio. Sc., Bio. Chem., Electronics.	GE II: Linear Algebra
	Tutorials	To Discuss the Doubts of students and to solve various exercise questions based on topics covered in the class.	B.Sc. (H) Maths Sem-VI A and VI B	Analysis V and Algebra V
	Practicals	13. Verify Bolzano Weierstrass theorem through plotting of sequences and hence identify convergent subsequences from the plot. 14. Study the convergence/divergence of infinite series by plotting their sequences of partial sum.	B.Sc. (H) Maths Sem-I B	C 4: Differential equations
	Practicals	3) Plot the integral surfaces of a given first order PDE with initial data. 4) Solution of wave equation	B.Sc.(H) Maths Sem II A	C8: Partial Differential Equations
March	Theory	Power series representation of functions analytic in unit disk, analyticity in an arbitrary open unit disk, uniqueness theorem, definition and examples of conformal mappings, bilinear transformations.	B.Sc(H) Maths Sem-VI B	Analysis V
	Theory	Applications of group actions: Generalized Cayley’s theorem, Index theorem. Groups acting on themselves by conjugation, class equation and consequences, conjugacy in S_n , p-groups. Sylow’s theorems and consequences.	B.Sc. (H) Maths Sem-VI A	Algebra V
	Theory	Row equivalence, Rank, Linear combination of vectors, Row space, Eigenvalues, Eigenvectors, Eigenspace, Characteristic polynomials.	B.Sc.(H) Chemistry, Bio. Sc., Bio. Chem., Electronics.	GE II: Linear Algebra
	Tutorials	To Discuss the Doubts of students and to solve various exercise questions based on topics covered in the class.	B.Sc. (H) Maths Sem-VI A	Analysis V and Algebra V

	Practicals	15. Cauchy's root test by plotting nth roots. 16. Ratio test by plotting the ratio of nth and n+1th term.	B.Sc. (H) Maths Sem-I B	C 4 Differential Equations
	Practicals	5) Solution of one-Dimensional heat equation 6) Solving systems of ordinary differential equations.	B.Sc. (H) Maths Sem-II A	C8: Partial Differential Equations
	Assignments	To give assignment related to syllabus	B.Sc(H) Maths Sem-VI A and VI B	Analysis V and Algebra V
	Test	To take internal test related to syllabus.	B.Sc(H) Maths Sem-VI A and VI B	Analysis V and Algebra V
April	Theory	Fourier series, piecewise continuous functions, Fourier sine and cosine series, Fourier coefficients. Revision of syllabus.	B.Sc(H) Maths Sem-VI B	Analysis V
	Theory	Cauchy's theorem, Simplicity of A_n for $n \geq 5$, non-simplicity tests. Solvable groups, Jordan holder theorem, composition series.	B.Sc(H) Maths Sem-VI A	Algebra V
	Theory	Diagonalization of matrices, Definition and examples of vector space, Some elementary properties of vector spaces, Subspace.	B.Sc.(H) Chemistry, Bio. Sc., Bio. Chem., Electronics.	GE II: Linear Algebra
	Tutorials	To Discuss the Doubts of students and to solve various exercise questions and to Revise whole syllabus, to discuss previous year questions papers.	B.Sc. (H) Maths Sem-VI and B	Algebra V
	Practicals	17. Convergence of Sequence by epsilon -K definition 18. Revision and Internal Test	B.Sc(H) Maths Sem-I B	C 4 Differential Equations

	Practicals	To revise all the practical s and to conduct internal test.	B.Sc(H) Maths Sem-II A	C8 Partial Differential equations
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Mr. Sudhakar Yadav

Month		Topics	Course	Paper Code/Name
Jan	Theory	Introduction, classification, construction and geometrical interpretation of first order partial differential equations (PDE), method of characteristic and general solution of first order PDE, canonical form of first order PDE, method of separation of variables for first order PDE.)	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations

Theory	Floating point representation and computer arithmetic, Significant digits, Errors: Round off error, Local truncation error, Global truncation error, Order of a method, Convergence and terminal conditions, Efficient computations Bisection method, Secant method, Regula-Falsi method, Newton Raphson method, Newton's method for solving nonlinear systems.	B.Sc(H) other than Maths(H)	GE-4 Numerical Method
Tutorials:	To Discuss the doubt of students and to solve various exercise of floating point representation and computer arithmetic, Significant digits, Errors: Round off error, Local truncation error, Global truncation error, Order of a method, Convergence and terminal conditions, Efficient computations Bisection method, Secant method, Regula-Falsi method, Newton Raphson method, Newton's method for solving nonlinear systems.	B.Sc(H) other than Maths(H)	GE-4 Numerical Method
Practicals	<ol style="list-style-type: none"> 1. Plotting of second and third order respective solution family of differential equation. 2. Growth and decay model (exponential case only). 3. (a) Lake pollution model (with constant/seasonal flow and pollution concentration). (b) Case of single cold pill and a course of cold pills. (c) Limited growth of population (with and without harvesting). 	B.Sc(H) Maths Sem-II A	Differential Equations
Practicals	<ol style="list-style-type: none"> 1. Solution of Cauchy problem for first order PDE. 2. Plotting the characteristics for the first order PDE. 3. Plot the integral surfaces of a given first order PDE with initial data 	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations

Feb	Theory	Mathematical modeling of vibrating string, vibrating membrane, conduction of heat in solids, gravitational potential, conservation laws and Burger's equations, classification of second order PDE, reduction to canonical forms, equations with constant coefficients, general solution.	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations
	Theory	Gauss elimination method (with row pivoting) and Gauss-Jordan method, Gauss Thomas method for tridiagonal systems Iterative methods: Jacobi and Gauss-Seidel iterative methods Interpolation: Lagrange's form and Newton's form Finite difference operators, Gregory Newton forward and backward differences Interpolation.	B.Sc(H) other than Maths(H)	GE-4 Numerical Method
	Tutorials:	To Discuss the doubt of students and to solve various exercise of Gauss elimination method (with row pivoting) and Gauss-Jordan method, Gauss Thomas method for tridiagonal systems Iterative methods: Jacobi and Gauss-Seidel iterative methods Interpolation: Lagrange's form and Newton's form Finite difference operators, Gregory Newton forward and backward differences Interpolation	B.Sc(H) other than Maths(H)	GE-4 Numerical Method

Practicals	4. (a) Predatory-prey model (basic volterra model, with density dependence, effect of DDT, two prey one predator). (b) Epidemic model of influenza (basic epidemic model, contagious for life, disease with carriers). (c) Battle model (basic battle model, jungle warfare, long range weapons). 5. Plotting of recursive sequences, and study the convergence. 6. Find a value that will make the following inequality holds for all $m > n$.	B.Sc(H) Maths Sem-II A	Differential Equations
Practicals	Solution of wave equation for associated conditions, Solution of one-Dimensional heat equation for a homogeneous rod of length l with various examples.	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations
Test	To take class test related to syllabus and lab test related to above Practicals.	B.Sc(H) Maths Sem-II A/IVB	ODE/PDE

March	Theory	Cauchy problem for second order PDE, homogeneous wave equation, initial boundary value problems, non-homogeneous boundary conditions, finite strings with fixed ends, non-homogeneous wave equation, Riemann problem, Goursat problem, spherical and cylindrical wave equation, Method of separation of variables for second order PDE.	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations
	Theory	Piecewise polynomial interpolation: Linear interpolation, Cubic spline interpolation (only method), Numerical differentiation: First derivatives and second order derivatives, Richardson extrapolation Numerical integration: Trapezoid rule, Simpson's rule (only method), Newton-Cotes open formulas Extrapolation methods: Romberg integration, Gaussian quadrature, Ordinary differential equation: Euler's method Modified Euler's .methods	B.Sc(H) other than Maths(H)	GE-4 Numerical Method
	Tutorials:	To Discuss the doubt of students and to solve various exercise of Piecewise polynomial interpolation: Linear interpolation, Cubic spline interpolation (only method), Numerical differentiation: First derivatives and second order derivatives, Richardson extrapolation Numerical integration: Trapezoid rule, Simpson's rule (only method), Newton-Cotes open formulas Extrapolation methods: Romberg integration, Gaussian quadrature, Ordinary differential equation: Euler's method Modified Euler's .methods	B.Sc(H) other than Maths(H)	GE-4 Numerical Method

	Practicals	7. Verify the Bolzano-Weierstrass theorem through plotting of sequences and hence identify convergent subsequences from the plot. 8. Study the convergence /divergence of infinite series of real numbers by plotting their sequences of partial sum. 9. Cauchy's root test by plotting n th roots. 10. D'Alembert's ratio test by plotting the ratio of n th and $(n+1)$ th term of the given series of positive terms.	B.Sc(H) Maths Sem-II A	Differential Equations
	Practicals	Solving systems of ordinary differential equations, Approximating solution to Initial Value Problems using approximate methods with various examples, To draw sequence of functions on given the interval and discuss the pointwise convergence.	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations
	Assignments	To give assignment related to syllabus		
	Test	To take internal test related to syllabus and internal lab test related to above Practicals.	B.Sc(H) Maths Sem-IV B/IIA	PDE/ODE
April	Theory	Vibrating string problem, existence and uniqueness of solution of vibrating string problem, heat conduction problem, existence and uniqueness of solution of heat conduction problem, Laplace and beam equation, non-homogeneous problem and to revise whole syllabus, to discuss last previous year questions papers.	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations

Theory	Heun method and Mid-point method, Runge-Kutta second methods: Heun method without iteration, Mid-point method and Ralston's method Classical 4th order Runge-Kutta method, Finite difference method for linear ODE and to revise whole syllabus and to discuss last previous year questions papers	B.Sc(H) other than Maths(H)	GE-4 Numerical Method
Tutorials:	To discuss the doubt of students and to solve various exercise of Heun method and Mid-point method, Runge-Kutta second methods: Heun method without iteration, Mid-point method and Ralston's method Classical 4th order Runge-Kutta method, Finite difference method for linear ODE. Further, to revise whole syllabus and discuss last previous year questions papers	B.Sc(H) other than Maths(H)	GE-4 Numerical Method
Practicals	For the given various sequences given find m such that given condition satisfied. For the given series, to calculate $\left \frac{a_{n+1}}{a_n} \right $ and $\left a_n \right ^{\frac{1}{n}}$, To revise whole syllabus.	B.Sc(H) Maths Sem-II A	Differential Equations
Practicals	Discuss the uniform convergence of sequence of functions with various examples and to revise whole syllabus.	B.Sc(H) Maths Sem-IV B	C8 Partial Differential Equations
Test	To take test related to syllabus and internal lab test related to above Practicals.	B.Sc(H) Maths Sem-IV B/IIA	PDE/ODE

		Topics	Course	Paper name
J A N U A R Y	Theory 1	Sample space, probability axioms, real random variables (discrete and continuous), cumulative distribution function, probability mass/density functions, Mathematical expectation, moments, moment generating function, characteristic function, discrete distributions: uniform, binomial, Poisson, geometric, negative binomial, continuous distributions: uniform, normal, exponential, Joint cumulative distribution function and its properties, joint probability density functions,	B.Sc(H) Mathematics Sem-VI	Probability Theory and Statistics (DSE-3)
	Theory 2	Computer Algebra Systems (CAS), use of CAS as calculator, Computing and plotting functions in 2D, plotting functions of two variables using Plot3D, ContourPlot, Plotting parametric curves and surfaces, customizing plots, animating plots, producing table of values, working with piecewise defined functions, combining graphics, simple programming in Mathematica	B.Sc(H) Mathematics Sem-IV	CAS and related softwares (SEC-II)
	Theory 3	Gauss elimination method (with row pivoting), Gauss–Jordan method, Gauss Thomas method for tridiagonal systems Iterative methods: Jacobi and Gauss Seidel iterative methods	B.Sc(H) courses	Numerical Methods (GE-4)
	Practicals	Use of Mathematica as calculator, computing and plotting functions in 2D in Mathematica, plotting functions of two variables using Plot3D, ContourPlot, plotting parametric curves and surfaces, customizing plots, animating plots, producing table of values, working with piecewise defined functions, combining graphics, simple programming in Mathematica, downloading and installing statistical software R.	Sem-IV	CAS and related softwares (SEC-II)
	Tutorials	Doubts and discussion on guidelines' problems	Sem-VI	DSE-3

		Topics	Course	Paper name
F E B R U A R Y	Theory 1	Marginal and conditional distributions, expectation of function of two random variables, conditional expectations, independent random variables, bivariate normal distribution, correlation coefficient, joint moment generating function (jmgf) and calculation of covariance (from jmgf), linear regression for two variables	B.Sc(H) Mathematics Sem-VI	Probability Theory and Statistics (DSE-3)
	Theory 2	Working with matrices, performing Gauss elimination, operations like transpose, determinant, inverse of matrices, minors, cofactors, working with large matrices, solving of linear equations, rank and nullity of a matrix, eigen values, eigen vectors and diagonalization, Statistical software R: R as calculator, reading and getting data into R: combine and scan commands.	B.Sc(H) Mathematics Sem-IV	CAS and related softwares (SEC-II)
	Theory 3	Interpolation: Lagrange's form and Newton's form Finite difference operators, Gregory Newton forward and backward differences Interpolation, Piecewise polynomial interpolation: Linear interpolation	B.Sc(H) courses	Numerical Methods (GE-4)

Practicals	Exercises based on Mathematica and R: working with matrices, performing gauss elimination, operations like transpose, determinant, inverse of matrices, minors, cofactors, working with large matrices, solving of linear equations, rank and nullity of a matrix, eigen values, eigen vectors and diagonalization, Statistical software R: R as calculator, reading and getting data into R: combine and scan commands.	Sem-IV	CAS and related softwares (SEC-II)
Tutorials	Doubts and discussion on guidelines' problems	Sem-VI	DSE-3
Assignment 1	Assignment to be submitted by the end of October consisting of questions of topics covered in September and October	B.Sc(H) Mathematics Sem-VI	DSE-3
Assignment 2	Assignment to be submitted by the end of October consisting of questions of topics covered in September and October	B.Sc(H) Mathematics Sem-IV	SEC-II
Assignment 3	Assignment to be submitted by the end of October consisting of questions of topics covered in September and October	B.Sc(H) courses	GE-4

	Topics	Course	Paper name	
M A R C H	Theory 1	Chebyshev's inequality, statement and interpretation of (weak) law of largenumbers and strong law of large numbers, Central Limit theorem for independentand identically distributed random variables with finite variance, Markov Chains	B.Sc(H) Mathematics Sem-VI	Probability Theory and Statistics (DSE-3)
	Theory 2	R: types and structure of data items with their properties, manipulating vectors, data frames, matrices and lists, viewing objects within objects, constructing data objects and conversions, summary commands, summary statistics for vectors, data frames, matrices and lists, summary tables, stem and leaf plot, histogram	B.Sc(H) Mathematics Sem-IV	CAS and related softwares (SEC-II)
	Theory 3	Cubic splineinterpolation (only method), Numerical differentiation: First derivatives andsecond order derivatives, Richardson extrapolation, Numerical integration:Trapezoid rule, Simpson's rule (only method), Newton-Cotes open formulas	B.Sc(H) courses	Numerical Methods (GE-4)
	Practicals	Exercises based on R: types and structure of data items with their properties, manipulating vectors, data frames, matrices and lists, viewing objects within objects, constructing data objects and conversions, summary commands, summary statistics for vectors, data frames, matrices and lists, summary tables, stem and leaf plot, histogram	Sem-IV	CAS and related softwares (SEC-II)
	Tutorials	Doubts and discussion on topics covered	Sem-VI	DSE-3
	Test 1	Test of topics covered till date	B.Sc(H) Mathematics Sem-VI	DSE-3
	Test 2	Test of topics covered till date	B.Sc(H) Mathematics Sem-IV	SEC-II
	Test 3	Test of topics covered till date	B.Sc(H) courses	GE-4

	Topics	Course	Paper name	
A	Theory 1	Chapman-Kolmogorov equations, classification of states and related problems	B.Sc(H) Mathematics Sem-VI	Probability Theory and Statistics (DSE-3)

P R I L	Theory 2	Plotting in R: Box whisker plots, scatter plot, pairs plot, line charts, pie charts, Cleveland dot charts, bar charts, explore data and relations, saving graphs	B.Sc(H) Mathematics Sem-IV	CAS and related softwares (SEC-II)
	Theory 3	Extrapolation methods: Romberg integration, Gaussian quadrature	B.Sc(H) courses	Numerical Methods (GE-4)
	Practicals	Plotting in R: Box whisker plots, scatter plot, pairs plot, line charts, pie charts, Cleveland dot charts, bar charts, explore data and relations, saving graphs and revision.	Sem-IV	CAS and related softwares (SEC-II)
	Tutorials	Doubts and discussion on previous year question papers	Sem-VI	DSE-3



SEMESTER WISE TEACHING PLAN-2016-17 (Even SEM)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Kameshwar Sharma YVR, Assistant Professor
Department: Biochemistry
Semester: II/IV/VI (Even Sem)

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	<ul style="list-style-type: none"> • Introduction <ul style="list-style-type: none"> - Photosynthetic Complex - Light Reaction 	B.Sc(H) Biochemistry Sem VI	BCH DSE-5 PLANT BIOCHEMISTRY
		<ul style="list-style-type: none"> • Biomolecules <ul style="list-style-type: none"> Amino acids Nucleic acids 	B.Sc(H) Biological Science - Sem II	BSC3 BIOPHYSICS
	Practicals	Partial purification of an enzyme using bulk methods or chromatography	B.Sc(H) Biochemistry – Sem II	BCH C-4 ENZYMES
		<ul style="list-style-type: none"> • Introduction to Bioinformatics • J mol and Java • PDB • BLAST • Primary Structure Prediction and Consensus <ul style="list-style-type: none"> • Glucose Estimation (GOD – POD) • Cholesterol Estimation 	B.Sc(H) Biochemistry Sem IV B.Sc(H) Biological Science - Sem IV	BCH SEC-4 : BIOINFORMATICS BSC3 METABOLISM AND INTEGRATION
	Tutorials			

FEBRUARY	Theory:	<ul style="list-style-type: none"> Photosystem Continuation... Photophosphorylation, Carbon Assimilation, Photorespiration Biomolecules Carbohydrates Lipids 	B.Sc(H) Biochemistry Sem VI	BCH DSE-5 PLANT BIOCHEMISTRY
	Practicals:	Assay to determine activity and specific activity of an enzyme <ul style="list-style-type: none"> Clustal Omega Transmembrane Prediction Tertiary Structure Prediction Evaluation Gene Structure Prediction (GENSCAN) Bilirubin Estimation Estimation of Creatinine Estimation of SGOT and SGPT (LFT) 	B.Sc(H) Biochemistry – Sem II	BCH C-4 ENZYMES
	Tutorials:	Class Tests / assignments	B.Sc(H) Biochemistry Sem IV	BCH SEC-4 : BIOINFORMATICS
MARCH	Theory:	<ul style="list-style-type: none"> Plant Hormones Plant Morphogenesis Secondary Metabolites - Alkaloids (Online notes and ppt)* Spectroscopy (Online notes and ppt)* 	B.Sc(H) Biochemistry Sem VI	BCH DSE-5 PLANT BIOCHEMISTRY
			B.Sc(H) Biological Science - Sem I	BSC3 BIOPHYSICS
			B.Sc(H) Biological Science - Sem IV	BSC3 METABOLISM AND INTEGRATION

	Practicals	<p>Progress curve for an enzyme 2. Effect of pH/temperature on enzyme activity 3. Determination of K_M and V_{max} of an enzyme using Lineweaver-Burk plot</p> <ul style="list-style-type: none"> • Molecular visualization of softwares : py mol and Ras mol from protein structures from PDB. • Separation of proteins using Ion Exchange Chromatography (Demonstration). • SDS – PAGE analysis of proteins: Demonstration • Revision Exercises • Glucose Estimation (Repeat/Revision) • Isolation and Identification of Marker Enzymes (SDH,LDH) 	<p>B.Sc(H) Biochemistry – Sem II</p> <p>B.Sc(H) Biochemistry Sem IV</p> <p>B.Sc(H) Biological Science - Sem IV</p>	<p>BCH C-3 ENZYMES</p> <p>BCH SEC-4 : BIOINFORMATICS</p> <p>BSC3 METABOLISM AND INTEGRATION</p>
	Tutorials	Assignments / Tests		
	<u>Test</u>	MID TERM Exams		
APRIL	Theory:	<ul style="list-style-type: none"> • Secondary Metabolites <ul style="list-style-type: none"> - Phenols - Terpenoids • Biological Membranes • Mechanobiology 	<p>B.Sc(H) Biochemistry Sem VI</p> <p>B.Sc(H) Biological Science - Sem I</p>	<p>BCH DSE-5 PLANT BIOCHEMISTRY</p> <p>BSC3 BIOPHYSICS</p>

MAY	Practicals:	Calculation of inhibitory constant (K _i) for an enzyme 2. Continuous assay of an enzyme	B.Sc(H) Biochemistry – Sem II	BCH C-3 ENZYMES
		Preparation of Mock Practicals and Main Practical Examinations	B.Sc(H) Biochemistry Sem IV	BCH SEC-4 : BIOINFORMATICS
			B.Sc(H) Biological Science - Sem IV	BSC3 METABOLISM AND INTEGRATION
	Tutorials:			
	Theory:	Conduct of Theory Exams		

DR. KAMESHWAR SHARMA YVR
Assistant Professor
Department of Biochemistry



SRI VENKATESWARA COLLEGE
SEMESTER WISE TEACHING PLAN

Name of the Faculty: Dr. Pooja Gokhale Sinha

Department: Botany

Semester: IV

Month		Topics	Course	Paper Code/Name
JULY	Theory	Taxonomic hierarchy Concept of ranks and categories	B.Sc. (H) Botany	/BTHT-507 Plant Systematics and Evolution
	Practicals	Introduction to Taxonomic Terminology (Vegetative characters)	B.Sc (H) Botany	/BTHT-507 Plant Systematics and Evolution
AUGUST	Theory:	Species Concept: Biological, Taxonomic, Nominalistic, Typological, Morphogeographical . Description, Advantages and disadvantages of all the	B.Sc (H) Botany	/BTHT-507 Plant Systematics and Evolution
	Practicals:	Introduction to Taxonomic Terminology (Vegetative characters) Morphological and anatomical features of the following species: <i>Vinca rosea</i> , <i>Hibiscus rosa sinensis</i>	B.Sc (H) Botany	/BTHT-507 Plant Systematics and Evolution
SEPTEMBER	Theory:	Introduction to chemotaxonomy Phylogeny of angiosperms:	B.Sc (H) Botany	/BTHT-507 Plant Systematics and Evolution

		All theories of the time and place of their origin. Theories related to their monophyletic or paraphyletic origin.		
	Practicals:	Morphological and anatomical features of the following species: <i>Hamelia</i> , <i>Sonchus</i> <i>Solanum nigrum</i> <i>Ocimum sanctum</i> <i>Euphorbia hirta</i> <i>Phyllanthus</i> , <i>Thevetia</i> <i>Tabernaemontana</i> <i>Tridax</i> , <i>vernonia</i> , Morphological features of families: Cannaceae, Asclepidiaceae, Cucurbitaceae, Poaceae,	B.Sc (H) Botany	/BTHT-507 Plant Systematics and Evolution
OCTOBER	Theory:	Theories related to their monophyletic or paraphyletic origin	B.Sc (H) Botany	/BTHT-507 Plant Systematics and Evolution
	Practicals:	<i>Thevetia</i> <i>Tabernaemontana</i> <i>Tridax</i> , <i>vernonia</i> , Morphological features of families: Cannaceae, Asclepidiaceae, Cucurbitaceae, Poaceae		
NOVEMBER	Theory:	Revision and discussion of previous years question papers	B.Sc (H) Botany	/BTHT-507 Plant Systematics and Evolution
	Practicals:	Poaceae		

**SEMESTER WISE
TEACHING PLAN
SRI VENKATESWARA COLLEGE**

Name of the Faculty: Pooja Gokhale

Department: Botany

Course: B.Sc. (H) Botany, Semester: IV

Paper: Ecology

MONTH		Topics	Course	Paper Code/Name
JULY	Theory	Introduction to Ecology History and overview of school of thoughts	B.Sc. (H) Botany	Ecology
	Practicals	Introduction to community Analysis and plotting of survivorship curves	B.Sc. (H) Botany	Ecology
	Tutorials			
AUGUST	Theory:	Levels of organization Community: Characteristics, structure	B.Sc. (H) Botany	Ecology

SEPTEMBER	Practicals:	<ul style="list-style-type: none"> Plotting of Species- area curve by minimal quadrat size Frequency, density and abundance of herbaceous vegetation of SVC campus 	B.Sc. (H) Botany	Ecology
	Theory	Raunkiers life forms Community function	B.Sc. (H) Botany	Ecology
	Practical	Soil analysis by rapid field tests Analysis of physical characteristics of soil Principle and function of field instruments	B.Sc. (H) Botany	Ecology
OCTOBER	Theory	Succession: types and principles Hydrosere, xerosere and mesosere	B.Sc. (H) Botany	Ecology
	Practical	Analysis of water samples to determine DO and BOD	B.Sc. (H) Botany	Ecology
NOVEMBER	Theory	Introduction to ecosystem: Structure and function Nutrient cycling and energy flow	B.Sc. (H) Botany	Ecology

Practical	Study of ecological adaptations: Morphological and anatomical	B.Sc. (H) Botany	Ecology
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SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Vandana Malhotra

Department: **BIOCHEMISTRY**

Semester: IV/VI, PG Diploma Semester II

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Unit 1 Structure of DNA No. of HOURS: 6 DNA structure, features of the double helix, various forms of DNA, denaturation and reassociation of DNA.	B.Sc. BIOCHEMISTRY (Hons) II Year, Semester IV	BCH C-9: Gene organization, Replication and Repair
		Unit 2 Genes and genomic organization No. of HOURS: 10 Genome sequence and chromosome diversity, definition of a gene, organization of genes in viruses, bacteria, animals and plants. Nucleosome structure and packaging of DNA into higher order structures.		
		Unit 1. Genetic Analysis and Mapping in Bacteria and Bacteriophages Conjugation; Transformation; Transduction, Recombination.	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester VI	GGHT-602 Genetics and Genomics -II
		Unit 2. DNA transformation in yeast: methods of gene transfer to yeast, YIp, YEp, YCp, YRp, shuttle vectors), optimization of protein expression. (4 periods)	P.G. Diploma Biochemical Technology and Biotechnology Semester II	Paper II RDT-II
		Unit 4. Gene transfer to animal cells: chemical transfection, lipofection, electroporation, gene-gun, microinjection, transient and stable transformation, optimization of protein synthesis, use of reporter genes.		
	Practicals	<ul style="list-style-type: none"> • Ultraviolet absorption spectrum of DNA and RNA. • Determination of DNA and RNA concentration by A260nm. • Continuous Evaluation I 	B.Sc. BIOCHEMISTRY (Hons) II Year, Semester IV	BCH C-9: Gene Organization, Replication and Repair
	<ul style="list-style-type: none"> • Isolation of Plasmid DNA • Restriction enzyme digestion of plasmid DNA and size estimation of fragments. 	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester VI	BCHT-612 RDT	
	<ul style="list-style-type: none"> • Isolation of plasmid DNA and genomic DNA together from <i>E.coli</i> and restriction enzyme digestion. 	B.Sc Biological Science III yr Semester VI	GGHT-602 Genetics and Genomics -II	

	Internal assessment	Assignment pertaining to the topics taught will be given to all courses		
FEBRUARY	Theory	Unit 2. Genes and genomic organization CONTD.	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester IV	BCH C-9: Gene organization, Replication and Repair
		Unit 3. Replication of DNA. Supercoiling of DNA and its importance, topoisomerases, critical role of topoisomerases in cell, topoisomerase inhibitors and their application in medicine.		
		Unit 2. Genome Dynamics-Transposable genetic elements, Eukaryotic Viruses Prokaryotic transposable elements- IS elements, Composite transposons, Tn-3 elements; Eukaryotic transposable elements- Ac-Ds system in maize and P elements in <i>Drosophila</i> ; Uses of transposons; Eukaryotic Viruses.	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester VI	GGHT-602 Genetics and Genomics -II
	Unit 4. Gene Transfer in Animal Cells (Contd.) Unit 6. PCR and its applications components of the PCR, importance of primer designing, various thermostable enzymes vs Taq polymerase. RAPD (5 periods)	P.G. Diploma Biochemical Technology and Biotechnology Semester II	Paper II RDT-II	
	Practicals :	<ul style="list-style-type: none"> Determination of the melting temperature and GC content of DNA. Verification of Chargaff's rule by paper chromatography. Continuous Evaluation II 	B.Sc. BIOCHEMISTRY (Hons) II Year, Semester IV	BCH C-9: Gene Organization, Replication and Repair
	<ul style="list-style-type: none"> Designing of primers for any selected genes. Demonstration of PCR technique. Repeat plasmid isolation 	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester VI	BCHT-612 RDT	
	<ul style="list-style-type: none"> Estimation of size of a DNA fragment after electrophoresis using DNA markers (from previous experiment) Isolation of Genomic DNA and restriction digestion 	B.Sc Biological Science III yr Semester VI	GGHT-602 Genetics and Genomics -II	
	Internal Assessment	Class Test -1, for all courses will be conducted pertaining to the syllabus done so far.		

MARCH	Theory	<p>Unit 5 Molecular basis of Mutations No. of HOURS: 4 Importance of mutations in evolution of species. Types of mutations - transition, transversions, frame shift mutations, mutations induced by chemicals, radiation, transposable elements, Ames test.</p> <p>Unit 6 Various modes of DNA repair No. of HOURS: 8 Replication errors and mismatch repair system, repair of DNA damage, direct repair, base excision repair, nucleotide excision repair, recombination repair, translesion DNA synthesis.</p>	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester IV	BCH C-9: Gene organization, Replication and Repair
		<p>Unit 2. Genome Dynamics-Transposable genetic elements, Eukaryotic Viruses (Contd)</p> <p>Unit 5. Genomic Analysis- Dissection of Gene Function (Ch 23, Klug and Cummings) Genetic analysis using mutations, forward genetics, genomics, reverse genetics, RNAi, functional genomics and system biology.</p>	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester VI	GGHT-602 Genetics and Genomics -II
		<p>Unit 7. DNA markers: VNTRs and DNA fingerprinting, SNPs, RFLPs. (4 periods)</p>	P.G. Diploma Biochemical Technology and Biotechnology Semester II	Paper II RDT-II
	Practicals	<ul style="list-style-type: none"> Isolation of Chromosomal DNA from <i>E. coli</i> cells Repeat any previous experiment Continuous Evaluation III 	B.Sc. BIOCHEMISTRY (Hons) II Year, Semester IV	BCH C-9: Gene Organization, Replication and Repair
		<ul style="list-style-type: none"> Preparation of competent cells and transformation Repeat any previous experiment 	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester VI	BCHT-612 RDT
		<ul style="list-style-type: none"> Construction of Restriction digestion maps from data provided. Demonstration of DNA fingerprinting. Repeat any experiment 	B.Sc Biological Science III yr Semester VI	GGHT-602 Genetics and Genomics -II
	Internal Assessment	<p>Assignments and Class Tests for all courses will be given to revise the syllabus done so far.</p> <p>Students who did not clear first test will be given a chance to appear for a retest.</p>		

APRIL	Theory	Unit 6 Various modes of DNA repair (Contd.) Replication errors and mismatch repair system, repair of DNA damage, direct repair, base excision repair, nucleotide excision repair, recombination repair, translesion DNA synthesis.	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester IV	BCH C-9: Gene organization, Replication and Repair
		Unit 5. Genomic Analysis- Dissection of Gene Function (Contd.)	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester VI	GGHT-602 Genetics and Genomics -II
		Unit 10. Analysis of the transcriptome: RNA expression level profiling with microarrays, MPSS, SAGE, ESTs, loss of function - Knock out, knock down, antisense RNA and RNAi (5 periods)	P.G. Diploma Biochemical Technology and Biotechnology Semester II	Paper II RDT-II
	Practical	Revision and Preparation for Viva Mock Practical Exam	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester IV	BCH C-9: Gene organization, Replication and Repair
		Revision and Preparation for Viva Mock Practical Exam	B.Sc. BIOCHEMISTRY (Hons) III Year, Semester VI	BCHT-612 RDT
		Revision and Preparation for Viva Mock Practical Exam	B.Sc Biological Science III yr, Semester VI	GGHT-602 Genetics and Genomics -II

**CHEMISTRY TEACHING
PLAN**

ALL TEACHERS

2016-17- EVEN SEMESTER



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE-2016-17 (even)

Name of the Faculty: **Dr. R.P.SINGH** Department: **CHEMISTRY**

Semester : **II/IV/VI**

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Unit I: Organic spectroscopy General principles Introduction to absorption and emission spectroscopy. UV Spectroscopy: Types of electronic transitions, λ_{max} , Chromophores and Auxochromes, Bathochromic and Hypsochromic shifts, Intensity of absorption; Application of Woodward Rules for calculation of λ_{max} for the following systems: α,β unsaturated aldehydes, ketones, carboxylic acids and esters; Conjugated dienes: alicyclic, homoannular and heteroannular; Extended conjugated systems (aldehydes, ketones and dienes); distinction between cis and trans isomers.	B.Sc. CHEMISTRY (Hons.) III Year, Semester VI	Paper 22-CHHT 616: Organic Chemistry -V
	Practicals			
FEBRUARY	Theory	IR Spectroscopy: Fundamental and non-fundamental molecular vibrations; IR absorption positions of O, N and S containing functional groups; Effect of H- bonding, conjugation, resonance and ring size on IR absorptions; Fingerprint region and its significance; application in functional group analysis. NMR Spectroscopy: Basic principles of Proton Magnetic Resonance, chemical shift and factors influencing it; Spin – Spin coupling and coupling constant; Anisotropic effects in alkene, alkyne, aldehydes and aromatics, Interpretation of NMR spectra of simple compounds. Applications of IR, UV and NMR for identification of simple organic molecules.	B.Sc. CHEMISTRY (Hons.) III Year, Semester VI	Paper 22-CHHT 616: Organic Chemistry -V
	Practicals:	Checking the calibration of the thermometer. Purification of organic compounds by crystallization using the following solvents: Water, Alcohol and Alcohol-Water. Determination of the melting points of unknown organic compounds Effect of impurities on the melting point – mixed melting point of two unknown organic compounds. Determination of boiling point of liquid compounds. Chromatography: a. Separation of a mixture of two amino acids by ascending and horizontal paper Chromatography and b. Separation of a mixture of two sugars by ascending paper chromatography	B.Sc. CHEMISTRY (Hons.) I Year, Semester II	Organic Chemistry-I

		<p>Systematic Qualitative analysis of the unknown organic compounds</p> <p>Determination of heat capacity of calorimeter for different volumes.</p> <p>Determination of Enthalpy of neutralization of hydrochloric acid with sodium hydroxide.</p> <p>Determination of enthalpy of ionization of acetic acid.</p>	<p>B.Sc. CHEMISTRY (Hons.) III Year, Semester VI</p> <p>B.Sc. Life Sciences (Prog.) I Year, Semester II</p>	<p>Paper 22-CHHT 616: Organic Chemistry -V</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I</p>
SEPTEMBER	Theory	<p>Unit II: Dyes Classification, Colour and constitution; Mordant and Vat Dyes; Chemistry of dyeing; Synthesis and applications of: Azo dyes – Methyl Orange and Congo Red (mechanism of Diazo Coupling); Triphenyl Methane Dyes – Malachite Green, Rosaniline and Crystal Violet; Phthalein Dyes – Phenolphthalein and Fluorescein; Natural dyes –structure elucidation and synthesis of Alizarin and Indigotin; Edible Dyes with examples.</p> <p>Unit III: Polymers Introduction and classification including di-block, tri-block and amphiphilic polymers; Number average molecular weight, Weight average molecular weight, Degree of polymerization, Polydispersity Index.</p>	<p>B.Sc. CHEMISTRY (Hons.) III Year, Semester VI</p>	<p>Paper 22-CHHT 616: Organic Chemistry -V</p>
	Practicals	<p>Organic Preparations (i) Bromination of acetanilide / aniline / phenol (ii) Nitration of nitrobenzene / toluene.</p> <p>Systematic Qualitative analysis of the unknown organic compounds</p> <p>Preparations: Mechanism of various reactions involved to be discussed. Recrystallisation, determination of melting point and calculation of quantitative yields to be done. (a) Bromination of Phenol/Aniline (b) Benzoylation of amines/phenols (c) Oxime and 2,4 dinitrophenylhydrazone of aldehyde/ketone</p>	<p>B.Sc. CHEMISTRY (Hons.) I Year, Semester II</p> <p>B.Sc. CHEMISTRY (Hons.) III Year, Semester VI</p> <p>B.Sc. Life Sciences (Prog.) I Year, Semester II</p>	<p>Organic Chemistry-I</p> <p>Paper 22-CHHT 616: Organic Chemistry -V</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I</p>
	<u>Assignment</u>		<p>B.Sc. CHEMISTRY (Hons.) III Year, Semester VI</p>	<p>Paper 22-CHHT 616: Organic Chemistry -V</p>

OCTOBER	Theory	Polymerisation reactions - Addition and condensation - Mechanism of cationic, anionic and free radical addition polymerization; Metallocene-based Ziegler-Natta polymerisation of alkenes; Preparation and applications of plastics – thermosetting (phenol-formaldehyde, Polyurethanes) and thermo softening (PVC, polythene);	B.Sc. CHEMISTRY (Hons.) III Year, Semester VI	Paper 22-CHHT 616: Organic Chemistry -V
	Practicals:	Detection of extra elements	B.Sc. CHEMISTRY (Hons.) I Year, Semester II	Organic Chemistry-I
		Systematic Qualitative analysis of the unknown organic compounds	B.Sc. CHEMISTRY (Hons.) III Year, Semester VI	Paper 22-CHHT 616: Organic Chemistry -V
		Systematic Qualitative organic analyses of organic compounds possessing monofunctional groups (Alcohols, Phenols, Carbonyl,- COOH) and preparation of one suitable derivative. Determination of integral enthalpy of solution of salts (KNO ₃ , NH ₄ Cl). Determination of enthalpy of hydration of copper sulphate. a) Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter.	B.Sc. Life Sciences (Prog.) I Year, Semester II	CHEMICAL & EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I
	<u>Test</u>		B.Sc. CHEMISTRY (Hons.) III Year, Semester VI	Paper 22-CHHT 616: Organic Chemistry -V
NOVEMBER	Theory:	Fabrics – natural and synthetic (acrylic, polyamido, polyester); Rubbers – natural and synthetic: Buna-S, Chloroprene and Neoprene; Vulcanization; Polymer additives; Introduction to liquid crystal polymers; Biodegradable and conducting polymers with examples.	B.Sc. CHEMISTRY (Hons.) III Year, Semester VI	Paper 22-CHHT 616: Organic Chemistry -V
	Practicals:	Practiced Detection of extra elements Mock Test	B.Sc. CHEMISTRY (Hons.) I Year, Semester II	Organic Chemistry-I
		Systematic Qualitative analysis of the unknown organic compounds b)Preparation of buffer solutions: (i)Sodium acetate-acetic acid (ii)Ammonium chloride-ammonium hydroxide Measurement of the pH of buffer solutions and comparison of the values with theoretical values	B.Sc. CHEMISTRY (Hons.) III Year, Semester VI B.Sc. Life Sciences (Prog.) I Year, Semester II	Paper 22-CHHT 616: Organic Chemistry -V CHEMICAL & EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I

**SEMESTER WISE
TEACHING PLAN
SRI VENKATESWARA COLLEGE**

Name of the Faculty: Dr Mercy Jacob

Department: Chemistry

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Coordination Chemistry: IUPAC nomenclature of coordination compounds, isomerism in coordination compounds, stereochemistry of complexes with 4 and 6 coordination numbers. Chelate effect, polynuclear complexes, Labile and inert complexes.	B.Sc. (H) Chemistry II nd Year, Semester - IV (2020)	CHEMISTRY – C VIII: INORGANIC CHEMISTRY – III Coordination Chemistry
	Practicals	Inorganic Preparations: i. Tetraamminecopper (II) sulphate, ii. Acetylacetonate complexes of Cu ²⁺	B.Sc. (H) Chemistry II nd Year, Semester - IV	CHEMISTRY – C VIII: INORGANIC CHEMISTRY – III Coordination Chemistry
		Qualitative semimicro analysis of mixtures containing 3 anions and 3 cations	B.Sc. (H) Chemistry III rd Year, Semester - VI	INORGANIC CHEMISTRY IV
		Semi-micro qualitative analysis of mixtures using H ₂ S or any other scheme- not more than four ionic species (two anions and two cations and excluding insoluble salts)	B.Sc. Life Sciences II nd Year, Semester - IV	CHEMISTRY OF s- AND p- BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETIC
	Tutorials			
FEBRUARY	Theory:	Werner's theory, valence bond theory (inner and outer orbital complexes), electroneutrality principle and back bonding, Crystal field theory	B.Sc. (H) Chemistry II nd Year, Semester - IV (2020)	CHEMISTRY – C VIII: INORGANIC CHEMISTRY – III Coordination Chemistry

	Practicals	Preparation of (iv) Potassium tri(oxalato)ferrate(III) Estimation of nickel (II) using Dimethylglyoxime (DMG).	B.Sc. (H) Chemistry II nd Year, Semester - IV	CHEMISTRY – C VIII: INORGANIC CHEMISTRY – III Coordination Chemistry
		Qualitative semimicro analysis of mixtures containing 3 anions and 3 cations Mixtures preferably contain one interfering anion	B.Sc. (H) Chemistry III rd Year, Semester - VI	INORGANIC CHEMISTRY IV
		Semi-micro qualitative analysis of mixtures using H ₂ S or any other scheme- not more than four ionic species (two anions and two cations and excluding insoluble salts)	B.Sc. Life Sciences II nd Year, Semester - IV	CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETIC
	Tutorials:			
	Assignment :	Coordination chemistry and chemistry of s block elements	B.Sc. (H) Chemistry II nd Year, Semester - IV (2020)	CHEMISTRY – C VIII: INORGANIC CHEMISTRY – III Coordination Chemistry
MARCH	Theory:	Measurement of 10 Dq (Δ_o). CFSE in weak and strong fields, pairing energies, factors affecting the magnitude of 10 Dq (Δ_o , Δt). Octahedral vs. tetrahedral coordination	B.Sc. (H) Chemistry II nd Year, Semester - IV (2020)	CHEMISTRY – C VIII: INORGANIC CHEMISTRY – III Coordination Chemistry
	Practicals:	Estimation of copper as CuSCN Preparation of Tetraamminecarbonatocobalt (III) nitrate	B.Sc. (H) Chemistry II nd Year, Semester - IV	CHEMISTRY – C VIII: INORGANIC CHEMISTRY – III Coordination Chemistry
		Qualitative semimicro analysis of mixtures containing 3 anions and 3 cations Mixtures preferably contain one interfering anion	B.Sc. (H) Chemistry III rd Year, Semester - VI	INORGANIC CHEMISTRY IV

		Surface tension measurement (use of organic solvents excluded). a) Determination of the surface tension of a liquid or a dilute solution using a stalagmometer. b) Study of the variation of surface tension of a detergent solution with concentration.	B.Sc. Life Sciences II nd Year, Semester - IV	CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETIC
	Tutorials:			
	Test	Coordination Chemistry and transition elements	B.Sc. (H) Chemistry II nd Year, Semester - IV	CHEMISTRY – C VIII: INORGANIC CHEMISTRY – III Coordination Chemistry
APRIL	Theory:	Tetragonal distortions from octahedral geometry Jahn-Teller theorem, square planar geometry. Qualitative aspect of Ligand field and MO Theory	B.Sc. (H) Chemistry II nd Year, Semester - IV (2020)	CHEMISTRY – C VIII: INORGANIC CHEMISTRY – III Coordination Chemistry
	Practicals:	Estimation of iron as Fe ₂ O ₃ by precipitating iron as Fe(OH) ₃ .	B.Sc. (H) Chemistry II nd Year, Semester - IV	CHEMISTRY – C VIII: INORGANIC CHEMISTRY – III Coordination Chemistry
		Mixtures preferably contain one interfering anion and combination of anions	B.Sc. (H) Chemistry III rd Year, Semester - VI	INORGANIC CHEMISTRY IV
		(II) Viscosity measurement (use of organic solvents excluded). a) Determination of the relative and absolute viscosity of a liquid or dilute solution using an Ostwald's viscometer. b) Study of the variation of viscosity of an aqueous solution with concentration of solute.	B.Sc. Life Sciences II nd Year, Semester - IV	CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETIC

	Tutorials:			
MAY	Theory:			
	Practicals:			
	Tutorials:			



**SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE**

Name of the Faculty: Dr. Vibha Saxena

Department: Chemistry

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Basic principles involved in analysis of cations and anions.	B.Sc(H) Chemistry III year	Paper 21 CHHT 615 Inorganic Chemistry – V
		General properties of elements of 3d series with special reference to electronic configuration, variable valency, colour,	BSc(P) Life science III year	Paper 21 CHPT 606 Chemistry –VI
	Practicals	Qualitative semi-micro analysis of mixtures containing 3 anions and 3 cations. Emphasis should be given to the	B.Sc(H) Chemistry III year	Paper 21 CHHT 615 Inorganic Chemistry – V
		Semi-micro qualitative analysis of mixture of two cations and two anions	BSc(P) Life science II year	Chemistry Practical
	Tutorials	NA	NA	NA
FEBRUARY	Theory:	Solubility products, common ion effect. Principles involved in separation of cations into groups and choice of group reagents	B.Sc(H) Chemistry III year	Paper 21 CHHT 615 Inorganic Chemistry – V
		Brief discussion with examples of types of ligands, denticity and concept of chelate. IUPAC system of nomenclature of coordination compounds (mononuclear and	BSc(P) Life science III year	Paper 21 CHPT 606 Chemistry –VI

Practicals:	Qualitative semi-micro analysis of mixtures containing 3 anions and 3 cations. Emphasis should be given to the understanding of the chemistry of different	B.Sc(H) Chemistry III year	Paper 21 CHHT 615 Inorganic Chemistry – V	
	Semi-micro qualitative analysis of mixture of two cations and two anions	BSc(P) Life science II year	Chemistry Practical	
Tutorials:	NA	NA	NA	

	<u>Assignment :</u>	Organometallic Chemistry & Bio-inorganic Chemistry Assignment	B.Sc(H) Chemistry III year	Paper 21 CHHT 615 Inorganic Chemistry – V
MARCH	Theory:	Interfering anions (fluoride, borate, oxalate and phosphate),	B.Sc(H) Chemistry III year	Paper 21 CHHT 615 Inorganic Chemistry – V
		Bonding in coordination compounds Valence Bond Theory (VBT): Salient features of theory, concept of inner and outer orbital complexes of	BSc(P) Life science III year	Paper 21 CHPT 606 Chemistry –VI
	Practicals:	Qualitative semi-micro analysis of mixtures containing 3 anions and 3 cations. Emphasis should be given to the	B.Sc(H) Chemistry III year	Paper 21 CHHT 615 Inorganic Chemistry – V
		Semi-micro qualitative analysis of mixture of two cations and two anions	BSc(P) Life science II year	Chemistry Practical
	Tutorials:	NA	NA	NA
	<u>Test</u>	Organometallic Chemistry & Bio-inorganic Chemistry Test	B.Sc(H) Chemistry III year	Paper 21 CHHT 615 Inorganic Chemistry – V
APRIL	Theory:	need to remove them after Group II and methods of removal. Analysis of insoluble substances.	B.Sc(H) Chemistry III year	Paper 21 CHHT 615 Inorganic Chemistry – V
		Crystal Field Theory Splitting of d orbitals in octahedral symmetry. Crystal field effects for weak and strong fields. Crystal field stabilization energy (CFSE), concept of pairing energy. Factors	BSc(P) Life science III year	Paper 21 CHPT 606 Chemistry –VI

Practicals:	Qualitative semi-micro analysis of mixtures containing 3 anions and 3 cations. Emphasis should be given to the understanding of the chemistry of different	B.Sc(H) Chemistry III year	Paper 21 CHHT 615 Inorganic Chemistry – V
	Semi-micro qualitative analysis of mixture of two cations and two anions	BSc(P) Life science II year	Chemistry Practical
Tutorials:			

MAY	Theory:			
	Practicals:			
	Tutorials:			



SEMESTER WISE TEACHING PLAN
Academic year 2016-2017 (even semester)
SRI VENKATESWARA
COLLEGE

Name of the Faculty: Dr. Sanjay Kumar

Department: CHEMISTRY

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	<p>Chemical Kinetics: Order and molecularity of a reaction, rate laws in terms of the advancement of a reaction, differential and integrated form of rate expressions up to second order reactions.</p> <p>Chemical Kinetics: The concept of reaction rates, effect of temperature, pressure, catalyst and other factors on reaction rates. Order and molecularity of a reaction, derivation of integrated rate equations for zero</p>	<p>B.Sc.(H) CHEMISTRY Semester IV</p> <p>B.Sc (P) Life Sciences Semester IV</p>	<p>C X: PHYSICAL CHEMISTRY IV</p> <p>CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS</p>
	Practical	<p>Verification of Lambert-Beer's Law for various solutions and determination of concentration of an unknown sample calorimetrically. Determination of concentration of an unknown calorimetrically from a mixture.</p> <p>Determination of cell constant Determination of conductivity, molar conductivity, degree of dissociation and dissociation constant of a weak acid. Perform the following conductometric titrations: (I) Strong acid vs. strong base</p>	<p>B.Sc.(H) CHEMISTRY Semester VI</p> <p>B.Sc.(H) CHEMISTRY Semester IV</p>	<p>Paper 23-CHHP 617: Physical Chemistry -V</p> <p>C X: PHYSICAL CHEMISTRY IV LAB</p>
FEBRUARY	Theory:	<p>Chemical Kinetics: Experimental methods for determination of rate laws, kinetics of complex reactions (integrated rate expressions up to first order only): (i) Opposing reactions (ii) parallel reactions and (iii) consecutive reactions and their differential rate equations (steady-state approximation in reaction mechanisms) (iv) chain reactions. Temperature dependence of reaction rates</p> <p>Chemical Kinetics: first and second order reactions (both for equal and unequal concentrations of reactants), half-life of a reaction, general methods for determination of order of a reaction, Concept of activation energy and its calculation from Arrhenius equation.</p>	<p>B.Sc.(H) CHEMISTRY Semester IV</p> <p>B.Sc (P) Life Sciences Semester IV</p>	<p>C X: PHYSICAL CHEMISTRY IV</p> <p>CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS</p>

	Practical:	<p>Determination of pK (indicator) for phenolphthalein or methyl red Study the formation of a complex between ferric and thiocyanate (or salicylate) ions. Study the kinetics of interaction of crystal violet with sodium hydroxide colorimetrically.</p> <p>Conductometric titrations: (I) Weak acid vs. strong base (II) Mixture of strong acid and weak acid vs. strong base Study of kinetics of Acid hydrolysis of methyl acetate with hydrochloric acid. Saponification of ethyl acetate</p>	<p>B.Sc.(H) CHEMISTRY Semester VI</p> <p>B.Sc.(H) CHEMISTRY Semester IV</p>	<p>Paper 23-CHHP 617: Physical Chemistry -V</p> <p>C X: PHYSICAL CHEMISTRY IV LAB</p>
MARCH	Theory:	<p>Chemical Kinetics: Arrhenius equation; activation energy. Collision theory of reaction rates, Lindemann mechanism, qualitative treatment of the theory of absolute reaction rates.</p> <p>Chemical Kinetics: Theories of reaction rates: Collision theory and activated complex theory of bi-molecular reactions.</p>	<p>B.Sc.(H) CHEMISTRY Semester IV</p> <p>B.Sc (P) Life Sciences Semester IV</p>	<p>C X: PHYSICAL CHEMISTRY IV</p> <p>CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS</p>

	Practical	<p>Record the UV spectrum of p-nitrophenol (in 1:4 ethanol:water mixture). Repeat after adding a small crystal of NaOH. Comment on the difference, if any.</p> <p>Comparison of the strengths of HCl and H₂ SO₄ by studying kinetics of hydrolysis of methyl acetate.</p>	<p>B.Sc.(H) CHEMISTRY Semester VI</p> <p>B.Sc.(H) CHEMISTRY Semester IV</p>	<p>Paper 23-CHHP 617: Physical Chemistry -V</p> <p>C X: PHYSICAL CHEMISTRY IV LAB</p>
	Assignment and test			
APRIL	Theory:	<p>Catalysis: Types of catalyst, specificity and selectivity, mechanisms of catalyzed reactions at solid surfaces. Enzyme catalysis, Michaelis-Menten mechanism, acid-base catalysis</p> <p>Chemical Kinetics: Comparison of the two theories (qualitative treatment only): Collision theory and activated complex theory of bi-molecular reactions.</p>	<p>B.Sc.(H) CHEMISTRY Semester IV</p> <p>B.Sc (P) Life Sciences Semester IV</p>	<p>C X: PHYSICAL CHEMISTRY IV</p> <p>CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS</p>

	Practicals:	Record the U.V. spectrum of a given compound (acetone) in cyclohexane (a) Plot transmittance versus wavelength. (b) Plot absorbance versus wavelength. (c) Calculate the energy involved in the electronic transition in different units, i.e. cm^{-1} , kJ/mol , kcal/mol & eV . Revision exercise and Viva practice	B.Sc.(H) CHEMISTRY Semester VI B.Sc.(H) CHEMISTRY Semester IV	Paper 23-CHHP 617: Physical Chemistry -V C X: PHYSICAL CHEMISTRY IV LAB
MAY	Theory:	REVISION AND PREVIOUS YEARS QUESTION PAPERS DISCUSSION REVISION AND PREVIOUS YEARS QUESTION PAPERS DISCUSSION	B.Sc.(H) CHEMISTRY Semester IV B.Sc (P) Life Sciences Semester IV	C X: PHYSICAL CHEMISTRY IV CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS



SEMESTER WISE TEACHING PLAN (2016-2017 even)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr Sharda Pasricha

Department: Chemistry

Semester: II/IV/ VI

Month		Topics	Course	Paper Code/Na
JANUARY	Theory	Nitrogen Containing compounds-Amines, diazonium salts and Nitro compounds	B.Sc.(H) Chemistry Semester IV	Organic Chemistry III
	Practical	1.Diels-Alder reaction between anthracene and maleic anhydride 2. Reduction: nitrobenzene to azobenzene (TLC of the mixture), 3.reduction of m-dinitrobenzene to m-nitroaniline 4. S-benzylisothiuranum salts of any one water soluble acid 5.SBT preparation for water insoluble acid:	B.Sc.(H) Chemistry Second Year Semester IV	Organic Chemistry III
		1.Extra element detection(Revision) 2.Qualitative analysis of monofunctional compounds containing Carbohydrates/ Primary, secondary and tertiary amines/Nitro compounds/ Amides /Aryl halides/ Hydrocarbons	B.Sc.(H) Chemistry Third Year Semester VI	Organic Chemistry V
FEBRUARY	Theory	Nitrogen containing compounds and Polynuclear Hydrocarbons	B.Sc.(H) Chemistry Semester IV	Organic Chemistry III

Practical	<p>5. Photochemical reduction of benzophenone to benzopinacol</p> <p>6. Benzoin condensation of benzaldehyde (using thiamine hydrochloride)</p> <p>7. Condensation of p-toluidine with benzaldehyde/salicylaldehyde/2-hydroxy-3-methoxy benzaldehyde to get Schiff's base (solventless condensation)</p>	<p>B.Sc.(H) Chemistry Second Year Semester IV</p>	<p>Organic Chemistry III</p>
	<p>Qualitative analysis of monofunctional compounds containing Carbohydrates/ Primary, secondary and tertiary amines/Nitro compounds/ Amides /Aryl halides/ Hydrocarbons</p>	<p>B.Sc.(H) Chemistry Third Year Semester VI</p>	<p>Organic Chemistry V</p>

	<u>Assignment :</u>	Given Assignment for Nitrogen containing functional group and polynuclear hydrocarbons		
MARCH	Theory:	Heterocyclic Compounds	B.Sc.(H) Chemistry Semester IV	Organic Chemistry III
	Practicals:	1.Estimation of Phenol 2.Estimation of aniline by bromination with potassium bromate-potassium bromide method 3.Glycine by formylation method 4.Saponification value of an oil/fat	B.Sc.(H) Chemistry Second Year Semester IV	Organic Chemistry III
		Qualitative analysis of monofunctional compounds containing Carbohydrates/ Primary, secondary and tertiary amines/Nitro compounds/ Amides /Aryl halides/ Hydrocarbons	B.Sc.(H) Chemistry Third Year Semester VI	Organic Chemistry V
<u>Test</u>	Syllabus included Nitrogen containing compounds, polynuclear hydrocarbons.			
APRIL	Theory:	Heterocyclic Compounds(Cont.)	B.Sc.(H) Chemistry Semester IV	Organic Chemistry III
	Practicals:	1. Revision 2. Mock Test 3. Final exam	B.Sc.(H) Chemistry Second Year Semester IV	Organic Chemistry III
1.Qualitative analysis of monofunctional compounds containing Carbohydrates/ Primary, secondary and tertiary amines/Nitro compounds/ Amides /Aryl halides/ Hydrocarbons. 2.Mock Test 3.Final Practical Examination.		B.Sc.(H) Chemistry Third Year Semester VI	Organic Chemistry V	



SEMESTER WISE TEACHING PLAN 2016-17 even sem
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Shefali Shukla

Department: Chemistry

Semester: II/IV/VI

Month		Topic	Course	Paper
January	Theory:	Hybridization, Shapes of molecules <i>Electronic Displacements</i> Homolytic and Heterolytic fission Electrophiles and Nucleophiles; Free radicals and Carbenes. Introduction to types of organic reactions Stereoisomerism: Fischer, Newmann and Sawhorse Projection formulae and their interconversions; Geometrical isomerism: cis-trans, syn-anti and E/Z notations with C.I.P rules.	B. Sc. (H) Chemistry I year, Semester II	Organic Chemistry I: Basics and Hydrocarbons
	Practicals:	Checking the calibration of the thermometer Purification of organic compounds by crystallization using the following solvents: a. Water b. Alcohol c. Alcohol-Water Determination of the melting points of unknown organic compounds (Kjeldahl method and electrically heated melting point apparatus)	B. Sc. (H) Chemistry I year, Semester II	B. Sc. (H) Chemistry I year, Semester II Practical C – III
		Determination of heat capacity of calorimeter. Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide.	B. Sc. (P) Life Sciences I year, Semester II	Practical CHEMISTRY –Core Paper-2 Chemical Energetics, Equilibria and Functional Group Organic Chemistry-I
		Determination of heat capacity of calorimeter. Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide.	GE-II	GE-II
		Systematic Qualitative analysis of the unknown organic compounds	B. Sc. (H) Chemistry III year, Semester VI	CHHP 616: Organic Chemistry-V Practical
	Tutorials:	NA	NA	NA
February	Theory:	Optical Activity, Specific Rotation, Chirality/Asymmetry,	B. Sc. (H) Chemistry I	Organic Chemistry I: Basics and

		Enantiomers, Molecules with two or more chiral-centres, Distereoisomers, meso structures, Racemic mixture and their resolution. Relative and absolute configuration: D/L and R/S designations. Conformational analysis of alkanes: Relative stability and Energy diagrams. Types of cycloalkanes and their relative stability, Baeyer strain theory : Chair, Boat and Twist boat forms of cyclohexane with energy diagrams ; Relative stability of mono substituted cycloalkanes	year, Semester II	Hydrocarbons
	Practicals:	Effect of impurities on the melting point – mixed melting point of two unknown organic Compounds Organic Preparations (i) Bromination of acetanilide / aniline / phenol (ii) Nitration of nitrobenzene / toluene	B. Sc. (H) Chemistry I year, Semester II	B. Sc. (H) Chemistry I year, Semester II Practical C – III
		Determination of integral enthalpy of solution of salts (KNO ₃ , NH ₄ Cl). Determination of enthalpy of hydration of copper sulphate. Benzoylation of amines/phenols. Oxime of aldehydes and ketones.	B. Sc. (P) Life Sciences I year, Semester II	Practical CHEMISTRY –Core Paper-2 Course Title: Chemical Energetics, Equilibria and Functional Group Organic Chemistry-I
		Determination of integral enthalpy of solution of salts (KNO ₃ , NH ₄ Cl). Determination of enthalpy of hydration of copper sulphate. Benzoylation of amines/phenols. Oxime of aldehydes and ketones	GE-II	GE-II
		Systematic Qualitative analysis of the unknown organic compounds	B. Sc. (H) Chemistry III year, Semester VI	CHHP 616: Organic Chemistry-V Practical
	Tutorials:	NA	NA	NA
	Assignment	Basic concepts of Organic Chemistry, Stereochemistry	B. Sc. (H) Chemistry I year, Semester II	Organic Chemistry I:Basics and Hydrocarbons
March	Theory:	General methods of preparation, physical and chemical properties of alkenes and alkynes, Mechanism of E1, E2, E1cb reactions. Saytzeff and Hofmann eliminations. Electrophilic	B. Sc. (H) Chemistry I year, Semester II	Organic Chemistry I:Basics and Hydrocarbons

	<p>additions their mechanisms (Markownikoff/ Anti Markownikoff addition), mechanism of oxymercuration-demercuration, hydroboration-oxidation, ozonolysis, reduction (catalytic and chemical), syn and anti-hydroxylation(oxidation). 1,2-and 1,4-addition reactions in conjugated dienes and Diels-Alder reaction; Allylic and benzylic bromination and mechanism, e.g. propene, 1-butene, toluene, ethyl benzene.</p>		
Practicals:	<p>Chromatography a.Separation of a mixture of two amino acids by ascending and circular chromatography b.Separation of a mixture of two sugars by ascending paper chromatography c.Separation of a mixture of o-and p-nitrophenol or o-and p-aminophenol by TLC</p> <p>Determination of boiling point of liquid compounds. (boiling point lower than and more than 100 °C by distillation and capillary method)</p> <p>Detection of extra elements</p>	B. Sc. (H) Chemistry I year, Semester II	B. Sc. (H) Chemistry I year, Semester II Practical C – III
	<p>Preparation of buffer solutions: (i) Sodium acetate-acetic acid or (ii) Ammonium chloride-ammonium acetate. Measurement of the pH of buffer solutions and comparison of the values with theoretical values. 2,4-dinitrophenylhydrazone of aldehydes and ketones</p>	B. Sc. (P) Life Sciences I year, Semester II	Practical CHEMISTRY –Core Paper-2 Course Title: Chemical Energetics, Equilibria and Functional Group Organic Chemistry-I
	<p>Preparation of buffer solutions: (i) Sodium acetate-acetic acid or (ii) Ammonium chloride-ammonium acetate. Measurement of the pH of buffer solutions and comparison of the values with theoretical values.</p>	GE-II	GE-II

		2,4-dinitrophenylhydrazone of aldehydes and ketones		
		Systematic Qualitative analysis of the unknown organic compounds	B. Sc. (H) Chemistry III year, Semester VI	CHHP 616: Organic Chemistry-V Practical
	Tutorials:	NA	NA	NA
	Test	Basic concepts, Stereochemistry, Alkene- Preparation , Electrophilic addition reactions	B. Sc. (H) Chemistry I year, Semester II	Organic Chemistry I:Basics and Hydrocarbons
April	Theory:	Reactions of alkynes; acidity, electrophilic and nucleophilic additions, hydration to form carbonylcompounds, Alkylation of terminal alkynes. Concept of Aromaticity, Huckel's rule, aromatic character of arenes, cyclic carbocations and carbanions with suitable examplesand heterocyclic compoundswith suitable examples. Electrophilic aromatic substitution: halogenation, nitration, sulphonation, Friedel Crafts alkylation/ acylation with their mechanism. Directing effects of groups in electrophilic substitution.	B. Sc. (H) Chemistry I year, Semester II	Organic Chemistry I:Basics and Hydrocarbons
		Systematic Qualitative analysis of the unknown organic compounds Identification of the functional groups, C-C and C-N triple bonds, sp ³ , sp ² and sp hybridized C-H bonds by IR spectroscopy	B. Sc. (H) Chemistry III year, Semester VI	CHHP 616: Organic Chemistry-V Practical
	Practicals:	Detection of extra elements Practice class	B. Sc. (H) Chemistry I year, Semester II	B. Sc. (H) Chemistry I year, Semester II Practical C – III
		Bromination of phenol/aniline Semicarbazone of aldehydes and ketones	B. Sc. (P) Life Sciences I year, Semester II	Practical CHEMISTRY –Core Paper-2 Course Title: Chemical Energetics, Equilibria and Functional Group Organic Chemistry-I
		Bromination of phenol/aniline Semicarbazone of aldehydes and ketones	GE-II	GE-II
	Tutorials:	NA	NA	NA



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE-2016-17 (even)

Name of the Faculty: **Dr. POOJA**

Department: **CHEMISTRY**

Semester: **II/IV/VI**

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	General introduction to pesticides (natural and synthetic), benefits and adverse effects, changing concepts of pesticides, structure activity relationship	B.Sc. CHEMISTRY (Hons.) II Year, Semester IV	SEC 11: PESTICIDE CHEMISTRY
		Alkyl and Aryl Halides Alkyl Halides. Preparation: from alkenes and alcohols. Reactions: Types of Nucleophilic Substitution (SN1, SN2 and SNi) reactions, hydrolysis, nitrite & nitro formation, nitrite & isonitrile formation.	B.Sc. Life Sciences (Prog.) I Year, Semester II	CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I
		Aromatic hydrocarbons Preparation (benzene): from phenol, by decarboxylation, from acetylene, from benzene sulphonic acid. Reactions: (benzene): Electrophilic substitution reactions: nitration, halogenation sulphonation. Friedel-Craft's reaction (alkylation and acylation) Side chain oxidation of alkyl benzenes. Alkyl and Aryl Halides Alkyl Halides . Preparation: from alkenes and alcohols. Reactions: Types of Nucleophilic Substitution (SN1, SN2 and SNi) reactions, hydrolysis, nitrite & nitro formation, nitrile & isonitrile formation. Williamson's ether synthesis: Elimination vs substitution.	Generic Elective-II	CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I

	Practicals	<p>To calculate acidity in given sample of pesticide formulations as per BIS specifications.</p> <p>Systematic Qualitative Organic Analysis of Organic Compounds possessing monofunctional groups (-COOH, alcoholic, phenolic, carbohydrates, aldehydic, ketonic, amide, nitro, Amines) and preparation of one derivative.</p> <p>To determine the concentration of glycine solution by formylation method. Study of titration curve of glycine</p>	<p>B.Sc. CHEMISTRY (Hons.) II Year, Semester IV</p> <p>B.Sc. Life Science (prog.) III Year, Semester VI</p> <p>Generic Elective IV</p>	<p>SEC 11: PESTICIDE CHEMISTRY PRACTICALS</p> <p>ORGANOMETALLICS, BIOINORGANIC CHEMISTRY, POLYNUCLEAR HYDROCARBONS AND UV, IR SPECTROSCOPY Practical</p> <p>Molecules of life</p>
FEBRUARY	Theory:	<p>synthesis and technical manufacture and uses of representative pesticides in the following classes: Organochlorines (DDT, Gammexene).</p> <p>Williamson's ether synthesis: Elimination vs substitution. Aryl Halides Preparation: (Chloro, bromo and iodo-benzene case): from phenol, Sandmeyer & Gattermann reactions.</p> <p>Aryl Halides Preparation: (Chloro, bromo and iodo-benzene case): from phenol, Sandmeyer & Gattermann reactions. Reactions (Chlorobenzene): Aromatic electrophilic and nucleophilic substitution (replacement by -OH group) and effect of nitro substituent. Benzyne Mechanism: KNH₂/NH₃ (or NaNH₂/NH₃). Relative reactivity of alkyl, allyl, benzyl, vinyl and aryl halides towards Nucleophilic substitution reactions.</p>	<p>B.Sc. CHEMISTRY (Hons.) II Year, Semester IV</p> <p>B.Sc. Life Sciences (Prog.) I Year, Semester II</p> <p>Generic Elective-II</p>	<p>SEC 11: PESTICIDE CHEMISTRY</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I</p>
	Practicals:	<p>To calculate alkalinity in given sample of pesticide formulations as per BIS specifications.</p> <p>Systematic Qualitative Organic Analysis of Organic Compounds possessing monofunctional groups (-COOH, alcoholic, phenolic, carbohydrates, aldehydic, ketonic, amide, nitro, Amines) and preparation of one derivative.</p>	<p>B.Sc. CHEMISTRY (Hons.) II Year, Semester IV</p> <p>B.Sc. Life Science (prog.) III Year, Semester VI</p>	<p>SEC 11: PESTICIDE CHEMISTRY PRACTICALS</p> <p>ORGANOMETALLICS, BIOINORGANIC CHEMISTRY, POLYNUCLEAR HYDROCARBONS AND UV, IR SPECTROSCOPY Practical</p>

		<p>Action of salivary amylase on starch</p> <p>Effect of temperature on the action of salivary amylase on starch.</p> <p>To determine the saponification value of an oil/fat.</p>	Generic Elective-IV	Molecules of life
MARCH	Theory:	<p>synthesis and technical manufacture and uses of representative pesticides in the following classes: Organophosphates (Malathion, Parathion), Carbamates (Carbofuran and carbaryl).</p> <p>Reactions (Chlorobenzene): Aromatic electrophilic and nucleophilic substitution (replacement by-OH group) and effect of nitro substituent. Benzyne Mechanism: KNH₂/NH₃ (or NaNH₂/NH₃).</p> <p>Alcohols, Phenols and Ethers) Alcohols: Preparation: Preparation of 1o, 2o and 3o alcohols: using Grignard reagent, Ester hydrolysis, Reduction of aldehydes, ketones, carboxylic acid and esters. Reactions: With sodium, HX (Lucas test), esterification, oxidation (with PCC, alk. KMnO₄, acidic dichromate, conc. HNO₃), factors affecting acidity, Oppeneauer oxidation Diols: oxidation of diols. Pinacol-Pinacolone rearrangement. Diols: oxidation of diols. Pinacol-Pinacolone rearrangement. Phenols: (Phenol case) Preparation: Cumene hydroperoxide method, from diazonium salts. Reactions: Electrophilic substitution: Nitration, halogenation and sulphonation. ReimerTiemann Reaction, Gattermann-Koch Reaction, Houben-Hoesch Condensation, Schotten –</p>	<p>B.Sc. CHEMISTRY (Hons.) II Year, Semester IV</p> <p>B.Sc. Life Sciences (Prog.) I Year, Semester II</p> <p>Generic Elective-II</p>	<p>SEC 11: PESTICIDE CHEMISTRY</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I</p>

Practicals:	Preparation of phenylethylamine thiocarbamate as organic pesticide.	B.Sc. CHEMISTRY (Hons.) II Year, Semester IV	SEC 11: PESTICIDE CHEMISTRY PRACTICALS
	Systematic Qualitative Organic Analysis of Organic Compounds possessing monofunctional groups (-COOH, alcoholic, phenolic, carbohydrates, aldehydic, ketonic, amide, nitro, Amines) and preparation of one derivative.	B.Sc. Life Science (prog.) III Year, Semester VI	ORGANOMETALLICS, BIOINORGANIC CHEMISTRY, POLYNUCLEAR HYDROCARBONS AND UV, IR SPECTROSCOPY Practical
	To determine the iodine value of an oil/fat Differentiate between a reducing/nonreducing sugar. Extraction of DNA from onion/cauliflower To synthesize aspirin by acetylation of salicylic acid and compare it with the ingredient of an aspirin tablet by TLC.	Generic Elective-IV	Molecules of life
Assignment :	To solve last 4 semesters Pesticides chemistry question papers.	B.Sc. CHEMISTRY (Hons.) II Year, Semester IV	SEC 11: PESTICIDE CHEMISTRY
	To solve last 3 years CBCS organic question papers.	B.Sc. Life Sciences, I Year, Semester II	CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I

APRIL	Theory:	<p>Synthesis and technical manufacture and uses of representative pesticides in the following classes: Quinones (Chloranil), Anilides (Alachlor and Butachlor).</p> <p>Relative reactivity of alkyl, allyl, benzyl, vinyl and aryl halides towards Nucleophilic substitution reactions.</p> <p>Reaction. acidity and factors affecting Ethers (aliphatic and aromatic). Preparation: Williamson ether synthesis. Reactions: Cleavage of ethers with HI</p> <p>Aldehydes and ketones (aliphatic and aromatic): Preparation: from acid chlorides and from nitriles. Reactions – Nucleophilic addition, Nucleophilic addition – elimination reaction including Reaction with HCN, ROH, NaHSO₃, NH₂-G derivatives. Iodoform test. Aldol Condensation, Cannizzaro's reaction, Wittig reaction, Benzoin condensation. Clemensen reduction and Wolff Kishner reduction. Meerwein-Ponndorf Verley reduction.</p>	<p>B.Sc. CHEMISTRY (Hons.) II Year, Semester IV</p> <p>B.Sc. Life Sciences (Prog.) I Year, Semester II</p> <p>Generic Elective-II</p>	<p>SEC 11: PESTICIDE CHEMISTRY</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I</p>
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Practicals:	Practice exercise.	B.Sc. CHEMISTRY (Hons.) II Year, Semester IV	SEC 11: PESTICIDE CHEMISTRY PRACTICALS
	Practice exercise.	B.Sc. Life Science (prog.) III Year, Semester VI	ORGANOMETALLICS, BIOINORGANIC CHEMISTRY, POLYNUCLEAR HYDROCARBONS AND UV, IR SPECTROSCOPY Practical
	Separation of amino acids by paper chromatography	Generic Elective-IV	Molecules of life
<u>Test</u>	Upto organophosphates as pesticides.	B.Sc. CHEMISTRY (Hons.) II Year, Semester IV	SEC 11: PESTICIDE CHEMISTRY
	Aromatic Hydrocarbon	B.Sc. CHEMISTRY (Hons.) I Year, Semester II	CHEMISTRY – CIII: ORGANIC CHEMISTRY - I Basics and Hydrocarbons



SEMESTER WISE TEACHING PLAN (2016-2017 even)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Deepti Sharma
Semester: II/IV/ VI

Department: Chemistry

Month		Topic	Course	Paper Code/ Name
January	Theory	Nitrogen Containing Functional Groups: Preparation and important reactions of nitro compounds, nitriles and isonitriles	B.Sc.(H) Chemistry Semester IV	Organic Chemistry III
		Carbohydrates Amino Acids, Peptides and Proteins	B.Sc. (H) GE Chemistry Semester IV	Molecules of Life
	Practical	Bromination of Phenol/Aniline Benzoylation of amines/phenols	B.Sc. (H) GE Chemistry Semester II	Chemical Energetics, Equilibria & Functional Organic Chemistry I
		Checking the calibration of the thermometer. Purification of organic compounds by crystallization using the following solvents: Water, Alcohol and Alcohol-Water. Determination of the melting points of unknown organic compounds Effect of impurities on the melting point – mixed melting point of two unknown organic compounds. Determination of boiling point of liquid compounds. Chromatography: a. Separation of a mixture of two amino acids by ascending and horizontal paper Chromatography and b. Separation of a mixture of two sugars by ascending paper chromatography	B.Sc. (H) Chemistry Semester II	Organic Chemistry-I
		Functional group test for nitro, amine and amide groups. Qualitative analysis of unknown organic compounds containing simple functional groups (alcohols, carboxylic acids, phenols, carbonyl compounds and esters)	B.Sc. (H) Chemistry Semester IV	Organic Chemistry-III

February	Theory	Nitrogen Containing Functional Groups: Preparation and important reactions of nitro compounds, nitriles and isonitriles contd. Amino Acids, Peptides and Proteins (contd.) Enzymes and correlation with drug action	B.Sc.(H) Chemistry Semester IV B.Sc. (H) GE Chemistry Semester IV	Organic Chemistry III Molecules of Life
	Practical	Oxime and 2,4 dinitrophenylhydrazone of aldehyde/ketone Systematic Qualitative organic analyses of organic compounds possessing monofunctional groups (Alcohols, Phenols, Carbonyl,-COOH) and preparation of one suitable derivative. Organic Preparations (i) Bromination of acetanilide / aniline / phenol (ii) Nitration of nitrobenzene / toluene. Practiced Functional group test for nitro, amine and amide groups. Practiced Qualitative analysis of unknown organic compounds containing simple functional groups (alcohols, carboxylic acids, phenols , carbonyl compounds and esters)	B.Sc. (H) GE Chemistry Semester II B.Sc. (H) Chemistry Semester II B.Sc. (H) Chemistry Semester IV	Chemical Energetics, Equilibria & Functional Organic Chemistry I Organic Chemistry I Organic Chemistry III
	Assignment	Given Assignment for Nitrogen containing functional groups (nitro compounds, nitriles and isonitriles). Given Assignment for Carbohydrates and Amino Acids, Peptides and Proteins	B.Sc.(H) Chemistry Semester IV B.Sc. (H) GE Chemistry Semester IV	Organic Chemistry III Molecules of Life
March	Theory	Terpenes Enzymes and correlation with drug action (contd.) Nucleic Acids	B.Sc.(H) Chemistry Semester IV B.Sc. (H) GE Chemistry Semester IV	Organic Chemistry III Molecules of Life
	Practical	Practiced Systematic Qualitative organic analyses of organic	B.Sc. (H) GE Chemistry	Chemical Energetics,

		<p>compounds possessing monofunctional groups (Alcohols, Phenols, Carbonyl,- COOH) and preparation of one suitable derivative.</p> <p>Detection of extra elements</p> <p>Practiced Functional group test for nitro, amine and amide groups. Practiced Qualitative analysis of unknown organic compounds containing simple functional groups (alcohols, carboxylic acids, phenols , carbonyl compounds and esters)</p>	<p>Semester II</p> <p>B.Sc. (H) Chemistry Semester II</p> <p>B.Sc. (H) Chemistry Semester IV</p>	<p>Equilibria & Functional Organic Chemistry I</p> <p>Organic Chemistry I</p> <p>Organic Chemistry III</p>
	Test	<p>Given Test for Nitrogen containing functional groups and Terpenes.</p> <p>Given Test for Carbohydrates and Amino Acids, Peptides and Proteins and Enzymes and correlation with drug action</p>	<p>B.Sc.(H) Chemistry Semester IV</p> <p>B.Sc. (H) GE Chemistry</p>	<p>Organic Chemistry III</p> <p>Molecules of Life</p>
April	Theory	<p>Alkaloids</p> <p>Lipids (contd.) Concept of Energy in Biosystems</p>	<p>B.Sc.(H) Chemistry Semester IV</p> <p>B.Sc. (H) GE Chemistry</p>	<p>Organic Chemistry III</p> <p>Molecules of Life</p>
	Practical	<p>Mock Tests</p> <p>Practiced Detection of extra elements Mock Test</p> <p>Practiced Qualitative analysis of unknown organic compounds containing simple functional groups (alcohols, carboxylic acids, phenols , carbonyl compounds and esters) Mock Test</p>	<p>B.Sc. (H) GE Chemistry Semester II</p> <p>B.Sc. (H) Chemistry Semester II</p> <p>B.Sc. (H) Chemistry Semester IV</p>	<p>Chemical Energetics, Equilibria & Functional Organic Chemistry I</p> <p>Organic Chemistry I</p> <p>Organic Chemistry III</p>
May				



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
2016-17

Name of the Faculty: Dr. Pragya Gahlot

Department: Chemistry

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Chemical Thermodynamics: Intensive and extensive variables:	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II
	Practicals	Determination of heat capacity of a calorimeter for different volumes using	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II Lab
		Semi-micro qualitative analysis of mixtures Determination	B.Sc. (P) Life Sciences, II year, Semester IV	CHEMISTRY LAB: CHEMISTRY OF s- AND p-BLOCK
		Determination of heat capacity of calorimeter. Determination of enthalpy of	GE-II	
	Tutorials			
FEBRUARY	Theory:	Second Law: Concept of entropy; thermodynamic scale of temperature, statement of the second law of	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II
	Practicals:	Determination of the enthalpy of ionization of ethanoic acid. (d) Determination of integral enthalpy	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II Lab

	Semi-micro qualitative analysis of mixtures Study of the variation of	B.Sc. (P) Life Sciences, II year, Semester IV	CHEMISTRY LAB: CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF
	5. Benzoylation of amines/phenols 6. Oxime and 2,4 dinitrophenylhydrazones of	GE-II	CHEMISTRY LAB: CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL
Tutorials:			

	<u>Assignment :</u>			
MARCH	Theory:	Determination of basicity of a diprotic acid by the thermochemical method in terms of ΔH	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II Lab
	Practicals:	Systems of Variable Composition: Partial molar quantities,	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II
		7. Acid hydrolysis of methyl acetate with hydrochloric	B.Sc. (P) Life Sciences, II year, Semester IV	CHEMISTRY LAB: CHEMISTRY OF s- AND p-BLOCK ELEMENTS
		9.Determination of integral enthalpy of solution of salts NH ₄ Cl.	GE-II	CHEMISTRY LAB: CHEMICAL ENERGETICS, EQUILIBRIA
	Tutorials:			
	<u>Test</u>			
APRIL	Theory:	Solutions and Colligative Properties: Dilute solutions; lowering of vapour pressure, Raoult's and Henry's Laws and	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II
	Practicals:	9.Determination of integral enthalpy of solution of salts NH ₄ Cl. 10.Determination of	GE-II	CHEMISTRY LAB: CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL

	(g) Study of the solubility of benzoic acid in water and determination of ΔH .	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II Lab
	9. Compare the strengths of HCl and H ₂ SO ₄ by studying kinetics of hydrolysis of	B.Sc. (P) Life Sciences, II year, Semester IV	CHEMISTRY LAB: CHEMISTRY OF s- AND p- BLOCK ELEMENTS, STATES OF
Tutorials:			

MAY	Theory:			
	Practicals:			
	Tutorials:			



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Vinita Kapoor

Department: Chemistry

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
JAN	Theory	Basic Computer system, Introduction	B.Sc. (Hons.) Chemistry sem VI	CHEMISTRY-DSE: APPLICATIONS OF COMPUTERS IN CHEMISTRY
	Practicals	I. Determination of cell constant II. Determination of conductivity, molar conductivity, degree of dissociation and dissociation constant of a weak acid. III. Perform the following conductometric titrations: i. Strong acid vs. strong base ii. Weak acid vs. strong base iii. Mixture of strong acid and weak acid vs. strong base iv. Strong acid vs. weak base	B.Sc. (Hons.) Chemistry sem IV	C X: PHYSICAL CHEMISTRY IV
	Practicals	Small programs for mathematical computations in BASIC language. Roots of equations: (e.g. volume of gas using van der Waals equation and comparison with ideal gas, pH of a weak acid).	B.Sc. (Hons.) Chemistry sem VI	CHEMISTRY-DSE: APPLICATIONS OF COMPUTERS IN CHEMISTRY

	Practicals	1. Semi-micro qualitative analysis of mixtures 2. Determination of the surface tension of a liquid or a dilute solution using a stalagmometer.	BSc (P) Life Sci. Semester IV	CHEMISTRY OF S- AND P-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS
	Practicals	1. Determination of heat capacity of calorimeter for different volumes. 2. Determination of Enthalpy of neutralization of hydrochloric acid with sodium hydroxide. 3. Determination of enthalpy of ionization of acetic acid.	BSc (P) Life Sci. Semester II	CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I
Month		Topics	Course	Paper Code/Name
FEB	Theory	Computer Programming Language- QBASIC, (for solving some of the basic and in turn complicated chemistry problems).	B.Sc. (Hons.) Chemistry sem VI	CHEMISTRY-DSE: APPLICATIONS OF COMPUTERS IN CHEMISTRY
	Practicals	1. Acid hydrolysis of methyl acetate with hydrochloric acid. 2. Comparison of the strengths of HCl and H ₂ SO ₄ by studying kinetics of hydrolysis of methyl acetate.	B.Sc. (Hons.) Chemistry sem IV	C X: PHYSICAL CHEMISTRY IV
	Practicals	Probability distributions (gas kinetic theory) and mean values. Matrix operations.	B.Sc. (Hons.) Chemistry sem VI	CHEMISTRY-DSE: APPLICATIONS OF COMPUTERS IN CHEMISTRY

	Practicals	3. Semi-micro qualitative analysis of mixtures 4. Study of the variation of surface tension of a detergent solution with concentration. 5. Determination of the relative and absolute viscosity of a liquid or dilute solution using an Ostwald's viscometer.	BSc (P) Life Sci. Semester IV	CHEMISTRY OF S- AND P-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS
	Practicals	4. Preparations: Mechanism of various reactions involved to be discussed. Recrystallisation, determination of melting point and calculation of quantitative yields to be done. (a) Bromination of Phenol/Aniline (b) Benzoylation of amines/phenols (c) Oxime and 2,4 dinitrophenylhydrazone of aldehyde/ketone	BSc (P) Life Sci. Semester II	CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I
Month		Topics	Course	Paper Code/Name
MARCH	Theory	QBASIC commands, programs for Chemistry problems Numerical methods	B.Sc. (Hons.) Chemistry sem VI	CHEMISTRY-DSE: APPLICATIONS OF COMPUTERS IN CHEMISTRY
	Practicals	Acid hydrolysis of methyl acetate with hydrochloric acid. Saponification of ethyl acetate.	B.Sc. (Hons.) Chemistry sem IV	C X: PHYSICAL CHEMISTRY IV
	Practicals	Numerical differentiation (e.g., change in pressure for small change in volume of a van der Waals gas, potentiometric titrations).	B.Sc. (Hons.) Chemistry sem VI	CHEMISTRY-DSE: APPLICATIONS OF COMPUTERS IN CHEMISTRY

	Practicals	6. Semi-micro qualitative analysis of mixtures 7. Study of the variation of viscosity of an aqueous solution with concentration of solute	BSc (P) Life Sci. Semester IV	CHEMISTRY OF S- AND P-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS
	Practicals	2. Systematic Qualitative organic analyses of organic compounds possessing monofunctional groups (Alcohols, Phenols, Carbonyl,- COOH) and preparation of one suitable derivative. 4.Determination of integral enthalpy of solution of salts (KNO ₃ , NH ₄ Cl). 5.Determination of enthalpy of hydration of copper sulphate. a)Measurement of pH of different solutions like aerated drinks, fruit juices, shampoos and soaps (use dilute solutions of soaps and shampoos to prevent damage to the glass electrode) using pH-meter.	BSc (P) Life Sci. Semester II	CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I
Month		Topics	Course	Paper Code/Name
APRIL	Theory	Numerical methods	B.Sc. (Hons.) Chemistry sem VI	CHEMISTRY-DSE: APPLICATIONS OF COMPUTERS IN CHEMISTRY
	Practicals	Study the kinetics of the following reactions. 1. Iodide-persulphate reaction (i) Initial rate method; (ii)Integrated rate method	B.Sc. (Hons.) Chemistry sem IV	C X: PHYSICAL CHEMISTRY IV
	Practicals	Graphic programs related to Chemistry problems. e.g. van der Waals isotherm, Compressibility versus pressure curves, Maxwell distribution curves, concentration-time	B.Sc. (Hons.) Chemistry sem VI	CHEMISTRY-DSE: APPLICATIONS OF COMPUTERS IN CHEMISTRY

Practicals	8. Semi-micro qualitative analysis of mixtures 9. Semi-micro qualitative analysis of mixtures	BSc (P) Life Sci. Semester IV	CHEMISTRY OF S- AND P-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS
Practicals	b)Preparation of buffer solutions: (i)Sodium acetate-acetic acid (ii)Ammonium chloride-ammonium hydroxide Measurement of the pH of buffer solutions and comparison of the values with theoretical values	BSc (P) Life Sci. Semester II	CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I



SEMESTER WISE TEACHING PLAN
Academic year 2016-2017 (even semester)
SRI VENKATESWARA
COLLEGE

Name of the Faculty: Ms. Laishram Saya Devi

Department: CHEMISTRY

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	<p>CONDUCTANCE: Quantitative aspects of Faraday's laws of electrolysis Arrhenius theory of electrolytic dissociation. Conductivity, equivalent and molar conductivity and their variation with dilution for weak and strong electrolytes. Molar conductivity at 29 infinite dilutions. Kohlrausch law of independent migration of ions. Debye-Hückel-Onsager equation, Wien effect, Debye-Falkenhagen effect.</p> <p>IONIC EQUILIBRIA Strong, moderate and weak electrolytes, degree of ionization, factors affecting degree of ionization, ionization constant and ionic product of water. Ionization of weak acids and bases, pH scale, common ion effect. Salt hydrolysis-calculation of hydrolysis constant, degree of hydrolysis and for different salts. Buffer solutions. Solubility and solubility product of sparingly soluble salts, Applications of solubility product principle.</p>	<p>B.Sc.(H) CHEMISTRY Semester IV</p> <p>GE II</p>	<p>C X: PHYSICAL CHEMISTRY IV</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA, FUNCTIONAL ORGANIC CHEMISTRY-I</p>
	Practical	<p>Introductory class</p> <p>Viscosity measurement (use of organic solvents excluded). (a) Determination of the relative and absolute viscosity of a liquid or dilute solution using an Ostwald's viscometer. (b) Study of the variation of viscosity of an aqueous solution with concentration of solute.</p> <p>Verification of Lambert-Beer's Law for various solutions and determination of concentration of an unknown sample calorimetrically. Determination of concentration of an unknown calorimetrically from a mixture.</p> <p>Introductory class Preparations: (i) Recrystallisation and determination of melting point and calculation of quantitative yields (ii) Benzoylation of amines and phenols (iii) Oxime and 2,4 dinitrophenylhydrazone of aldehyde/ketone</p>	<p>B.Sc (P) Life Sciences Semester IV</p> <p>B.Sc.(H) CHEMISTRY Semester VI</p> <p>B.Sc. (P) Life Sciences Semester II</p>	<p>CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS</p> <p>Paper 23-CHHP 617: Physical Chemistry -V</p> <p>C II: CHEMICAL ENERGETICS, CHEMICAL EQUILIBRIUM, IONIC EQUILIBRIUM, FUNCTIONAL GROUPS-I</p>

FEBRUARY	Theory:	<p>CONDUCTANCE: Walden's rules. Ionic velocities, mobilities and their determinations, transference numbers and their relation to ionic mobilities, determination of transference numbers using Hittorf and Moving Boundary methods. Applications of conductance measurement: (i) degree of dissociation of weak electrolytes, (ii) ionic product of water (iii) solubility and solubility product of sparingly soluble salts, (iv) conductometric titrations, and (v) hydrolysis constants of salts.</p> <p>CHEMICAL EQUILIBRIUM: Free energy change in a chemical reaction. Thermodynamic derivation of the law of chemical equilibrium. Distinction between G and G_0, Le Chatelier's principle. Relationships between K_p, K_c and K_x for reactions involving ideal gases.</p> <p>CHEMICAL ENERGETICS: Review of thermodynamics and the Laws of Thermodynamics. Important principles and definitions of thermochemistry. Concept of standard state and standard enthalpies of formations, integral and differential enthalpies of solution and dilution.</p>	<p>B.Sc.(H) CHEMISTRY Semester IV</p> <p>GE II</p>	<p>C X: PHYSICAL CHEMISTRY IV</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA, FUNCTIONAL ORGANIC CHEMISTRY-I</p>
	Practical:	<p>Semi-micro qualitative analysis of mixtures (two anions and two cations and excluding insoluble salts)</p> <p>Determination of pK (indicator) for phenolphthalein or methyl red Study the formation of a complex between ferric and thiocyanate (or salicylate) ions. Study the kinetics of interaction of crystal violet with sodium hydroxide colorimetrically.</p> <p>Thermochemistry: (1). Determination of heat capacity of calorimeter using different volumes. (2). Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide.</p>	<p>B.Sc (P) Life Sciences Semester IV</p> <p>B.Sc.(H) CHEMISTRY Semester VI</p> <p>B.Sc (P) Life Sciences Semester II</p>	<p>CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS</p> <p>Paper 23-CHHP 617: Physical Chemistry -V</p> <p>C II: CHEMICAL ENERGETICS, CHEMICAL EQUILIBRIUM, IONIC EQUILIBRIUM, FUNCTIONAL GROUPS-I</p>

MARCH	Theory:	<p>PHOTOCHEMISTRY: Characteristics of electromagnetic radiation, Lambert-Beer's law and its limitations, physical significance of absorption coefficients. Laws, of photochemistry, quantum yield, actinometry.</p> <p>CHEMICAL ENERGETICS: Calculation of bond energy, bond dissociation energy and resonance energy from thermochemical data. Variation of enthalpy of a reaction with temperature — Kirchoff's equation.</p>	<p>B.Sc.(H) CHEMISTRY Semester IV</p> <p>GE-II</p>	<p>C X: PHYSICAL CHEMISTRY IV</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA, FUNCTIONAL ORGANIC CHEMISTRY-I</p>
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	Practical	<p>Surface tension measurement (use of organic solvents excluded). Determination of the surface tension of a liquid or a dilute solution using a stalagmometer.</p> <p>Record the UV spectrum of p-nitrophenol (in 1:4 ethanol:water mixture). Repeat after adding a small crystal of NaOH. Comment on the difference, if any.</p> <p>Purification of organic compound by crystallisation (from water and alcohol) and distillation. 2. Criteria of purity: Determination of M.P./B.P.</p> <p>Determination of integral enthalpy of solution of salts (KNO₃, NH₄ Cl). Determination of enthalpy of hydration of salts (CuSO₄)</p>	<p>B.Sc.(P) Life Science Semester IV</p> <p>B.Sc.(H) CHEMISTRY Semester VI</p> <p>B.Sc (P) Life Sciences Semester II</p>	<p>CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS</p> <p>Paper 23-CHHP 617: Physical Chemistry -V</p> <p>C II: CHEMICAL ENERGETICS, CHEMICAL EQUILIBRIUM, IONIC EQUILIBRIUM, FUNCTIONAL GROUPS-I</p>
	Assignment and test			
APRIL	Theory:	<p>PHOTOCHEMISTRY: examples of low and high quantum yields, photochemical equilibrium and the differential rate of photochemical reactions, photosensitised reactions, quenching. Role of photochemical reactions in biochemical processes, photo stationary states, chemiluminescence</p> <p>CHEMICAL ENERGETICS: Statement of Third Law of thermodynamics and calculation of absolute entropies of substances.</p>	<p>B.Sc.(H) CHEMISTRY Semester IV</p> <p>GE II</p>	<p>C X: PHYSICAL CHEMISTRY IV</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA, FUNCTIONAL ORGANIC CHEMISTRY-I -I</p>

	Practicals:	<p>Mixture analysis exercises</p> <p>Record the U.V. spectrum of a given compound (acetone) in cyclohexane (a) Plot transmittance versus wavelength. (b) Plot absorbance versus wavelength. (c) Calculate the energy involved in the electronic transition in different units, i.e. cm^{-1}, kJ/mol, kcal/mol & eV.</p> <p>Preparation of buffer solutions: (i) Sodium acetate-acetic acid (ii) Ammonium chloride-ammonium hydroxide Measurement of the pH of buffer solutions and comparison of the values with theoretical values.</p>	<p>B.Sc (P) Life Sciences Semester IV</p> <p>B.Sc.(H) CHEMISTRY Semester V</p> <p>B.Sc (P) Life Sciences Semester II</p>	<p>CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS</p> <p>Paper 23-CHHP 617: Physical Chemistry -V</p> <p>C II: CHEMICAL ENERGETICS, CHEMICAL EQUILIBRIUM, IONIC EQUILIBRIUM, FUNCTIONAL GROUPS-I</p>
MAY	Theory:	<p>REVISION AND PREVIOUS YEARS QUESTION PAPERS DISCUSSION</p> <p>REVISION AND PREVIOUS YEARS QUESTION PAPERS DISCUSSION</p>	<p>B.Sc.(H) CHEMISTRY Semester IV</p> <p>GE II</p>	<p>C X: PHYSICAL CHEMISTRY IV</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA, FUNCTIONAL ORGANIC CHEMISTRY-I -I</p>



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Academic Year 2016-2017 (Even)

Name of the Faculty: Dr. Rekha Yadav

Department: Chemistry

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JAN	Theory	Molecular Spectroscopy: Interaction of electromagnetic radiation with molecules and various types of spectra; Born-Oppenheimer approximation. Rotation spectroscopy: Selection rules, intensities of spectral lines, determination of bond lengths of diatomic and linear triatomic molecules, isotopic substitution.	B.Sc. (Hons.) Chemistry III year, Semester VI	CHHT 617 Physical Chemistry – V
		Ionic Equilibria: Strong, moderate and weak electrolytes, degree of ionization, factors affecting degree of ionization, ionization constant and ionic product of water. Ionization of weak acids and bases, pH scale, common ion effect. Salt hydrolysis-calculation of hydrolysis constant, degree of hydrolysis and pH for different salts. Buffer solutions.	B.Sc. (P) Life Science I year, Semester II	CORE COURSE CHEMISTRY II CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I

Practicals	<p>Word processing: Incorporating chemical structures into word processing documents, presentation graphics, on-line publication (www/html), multimedia animations, etc.</p> <p>Handling numeric data: spreadsheet software (Excel), simple calculations, statistical analysis,</p> <p>plotting graphs using a spreadsheet (radial distribution curves for hydrogenic orbitals, gas kinetic theory, spectral data, pressure-volume curves of van der Waals gas, data from phase equilibria studies)</p>	B.Sc. (Hons.) Chemistry, III year, Semester VI	Lab CHHT 618 Applications of Computers in Chemistry
Practicals	<p>Conductometry:</p> <ol style="list-style-type: none"> 1. Determination of cell constant 2. Determination of conductivity, molar conductivity, degree of dissociation and dissociation constant of a weak acid. 3. Perform the following conductometric titrations: i. Strong acid vs. strong base 	B.Sc. (Hons.) Chemistry, II year, Semester IV	Core Course-X Practical Physical Chemistry-IV Lab
	<p>(a) Determination of heat capacity of a calorimeter for different volumes using (i) change of enthalpy data of a known system (method of back calculation of heat capacity of calorimeter from known enthalpy of solution of sulphuric acid or enthalpy of neutralization), and (ii) heat gained equal to heat lost by cold water and hot water respectively</p> <p>(b) Determination of enthalpy of neutralization of hydrochloric acid with sodium hydroxide.</p>	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II Lab

	Practicals	10. Semi-micro qualitative analysis of mixtures 11. Determination of the surface tension of a liquid or a dilute solution using a stalagmometer.	B.Sc. (P) Life Sciences, II year, Semester IV	CHEMISTRY LAB: CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS
Month				
FEB	Theory	Vibrational spectroscopy: Classical equation of vibration, computation of force constant, amplitude of diatomic molecular vibrations, anharmonicity, Morse potential, dissociation energies, fundamental frequencies, overtones, hot bands, degrees of freedom for polyatomic molecules, modes of vibration, concept of group frequencies. Vibration-rotation spectroscopy: diatomic vibrating rotator, P, Q, R branches. Raman spectroscopy: Qualitative treatment of Rotational Raman effect; Effect of nuclear spin.	B.Sc. (Hons.) Chemistry III year, Semester VI	CHHT 617 Physical Chemistry – V
		Solubility and solubility product of sparingly soluble salts – applications of solubility product principle. Chemical Equilibrium: Free energy change in a chemical reaction. Thermodynamic derivation of the law of chemical equilibrium. Distinction between G and G_0 , Le Chatelier's principle. Relationships between K_p , K_c and K_x for reactions involving ideal gases.	B.Sc. (P) Life Science I year, Semester II	CORE COURSE CHEMISTRY II CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I
	Practicals	graphical solution of equations, solving equations numerically (e.g. pH of a weak acid ignoring/ not ignoring the ionization of water, volume of a van der Waals gas, equilibrium constant expressions). Numeric modelling, numerical curve fitting,	B.Sc. (Hons.) Chemistry, III year, Semester VI	Lab CHHT 618 Applications of Computers in Chemistry

	Practicals	Perform the following conductometric titrations 4. Weak acid vs. strong base 5. Mixture of strong acid and weak acid vs. strong base 6. Strong acid vs. weak base 7. Study the kinetics of the following reactions Iodide-persulphate reaction by Initial rate method	B.Sc. (Hons.) Chemistry, II year, Semester IV	Core Course-X Practical Physical Chemistry-IV Lab
	Practicals	(c) Determination of the enthalpy of ionization of ethanoic acid. (d) Determination of integral enthalpy (endothermic and exothermic) solution of salts- KNO_3 , NH_4Cl	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II Lab
	Practicals	12. Semi-micro qualitative analysis of mixtures 13. Study of the variation of surface tension of a detergent solution with concentration. 14. Determination of the relative and absolute viscosity of a liquid or dilute solution using an Ostwald's viscometer. 15. Study of the variation of viscosity of an aqueous solution with concentration of solute	B.Sc. (P) Life Sciences, II year, Semester IV	CHEMISTRY LAB: CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS
Month		Topics	Course	Paper Code/Name
MARCH	Theory	Vibrational Raman spectra, Stokes and anti-Stokes lines; their intensity difference, rule of mutual Exclusion. Electronic spectroscopy: Franck-Condon principle, electronic transitions, singlet and triplet states, fluorescence and phosphorescence, dissociation and predissociation, calculation of electronic transitions of polyenes using free electron model.	B.Sc. (Hons.) Chemistry III year, Semester VI	CHHT 617 Physical Chemistry – V

	<p>Review of thermodynamics and the Laws of Thermodynamics. Important principles and definitions of thermochemistry. Concept of standard state and standard enthalpies of formations, integral and differential enthalpies of solution and dilution. Calculation of bond energy, bond dissociation energy and resonance energy from thermochemical data.</p>	B.Sc. (P) Life Science I year, Semester II	<p>CORE COURSE CHEMISTRY II</p> <p>CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I</p>
Practicals	<p>linear regression (rate constants from concentration-time data, molar extinction coefficients from absorbance data), numerical differentiation (e.g. handling data from potentiometric titrations), integration (e.g. entropy/enthalpy change from heat capacity data). Numerical solution of differential equations (e.g. kinetics). Molecular modelling: Visualization of 3D structure.</p>	B.Sc. (Hons.) Chemistry, III year, Semester VI	Lab CHHT 618 Applications of Computers in Chemistry
Practicals	<p>8. Study the kinetics of the following reactions Iodide-persulphate reaction by Integrated rate method 9. Acid hydrolysis of methyl acetate with hydrochloric acid.</p>	B.Sc. (Hons.) Chemistry, II year, Semester IV	Core Course-X Practical Physical Chemistry-IV Lab
Practicals	<p>(e) Determination of basicity of a diprotic acid by the thermochemical method in terms of the changes of temperatures observed in the graph of temperature versus time for different additions of a base. Also calculate the enthalpy of neutralization of the first step. (f) Determination of enthalpy of hydration of salt.</p>	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II Lab

	Practicals	7. Acid hydrolysis of methyl acetate with hydrochloric acid. 8. Saponification of ethyl acetate.	B.Sc. (P) Life Sciences, II year, Semester IV	CHEMISTRY LAB: CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS
Month		Topics	Course	Paper Code/Name
APRIL	Theory	Nuclear Magnetic Resonance (NMR) spectroscopy: Principles of NMR spectroscopy, Larmor precession, chemical shift and low resolution spectra, different scales, spin-spin coupling and high resolution spectra, interpretation of PMR spectra of organic molecules. Electron Spin Resonance (ESR) spectroscopy: Its principle, hyperfine structure, ESR of simple radicals.	B.Sc. (Hons.) Chemistry III year, Semester VI	CHHT 617 Physical Chemistry – V
		Variation of enthalpy of a reaction with temperature – Kirchoff's equation. Statement of Third Law of thermodynamics and calculation of absolute entropies of substances.	B.Sc. (P) Life Science I year, Semester II	CORE COURSE CHEMISTRY II CHEMICAL ENERGETICS, EQUILIBRIA & FUNCTIONAL ORGANIC CHEMISTRY I
	Practicals	calculation of molecular structures and properties (e.g., conformational energies of butane, rotation of 1,3-butadiene, distribution of isomers, energies of orbitals and total energy as a function of bond angle for H ₂ O, simulation of Diels-Alder reaction, SN ₂ reactions). Chemical information on the web. Chemical abstracts. Structures and properties.	B.Sc. (Hons.) Chemistry, III year, Semester VI	Lab CHHT 618 Applications of Computers in Chemistry
	Practicals	10. Saponification of ethyl acetate. 11. Comparison of the strengths of HCl and H ₂ SO ₄ by studying kinetics of hydrolysis of methyl acetate.	B.Sc. (Hons.) Chemistry, II year, Semester IV	Core Course-X Practical Physical Chemistry-IV Lab
	Practicals	(g) Study of the solubility of benzoic acid in water and determination of ΔH .	B.Sc. (H) Chemistry, I year, Semester II	Core Course-IV Practical Physical Chemistry-II Lab

	Practicals	9. Compare the strengths of HCl and H ₂ SO ₄ by studying kinetics of hydrolysis of methyl acetate 10. Semi-micro qualitative analysis of mixtures	B.Sc. (P) Life Sciences, II year, Semester IV	CHEMISTRY LAB: CHEMISTRY OF s- AND p-BLOCK ELEMENTS, STATES OF MATTER & CHEMICAL KINETICS
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SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Shikha Gulati **Department:** Chemistry

Semester: VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Organometallic Compounds Definition and classification of organometallic compounds on the basis of bond type. Concept of hapticity of organic ligands. Metal carbonyls: 18 electron rule, electron count of mononuclear, polynuclear and substituted metal carbonyls of 3d series. General methods of preparation (direct combination, reductive carbonylation, thermal and photochemical decomposition) of mono and binuclear carbonyls of 3d series.	B.Sc. (Hons.) Chemistry III Year	Paper 21-CHHT 615: Inorganic Chemistry -V
	Practicals	Gravimetric Analysis: i. Estimation of nickel (II) using Dimethylglyoxime (DMG). Inorganic Preparations: i. Tetraamminecopper (II) sulphate, $[\text{Cu}(\text{NH}_3)_4]\text{SO}_4 \cdot \text{H}_2\text{O}$ ii. Acetylacetonate complexes of $\text{Cu}^{2+}/\text{Fe}^{3+}$	B.Sc. (Hons.) Chemistry II Year	Paper 13-CHHP 408: Inorganic Chemistry -III

	<p>(i) Paper chromatographic separation of Co^{2+} and Ni^{2+}.</p> <p>(ii) Separation and identification of the amino acids present in the given mixture by paper chromatography. Reporting the R_f values.</p>	B.Sc. (Hons.) Chemistry III Year	Paper 6-CHHP 204: ANALYTICAL METHODS IN CHEMICAL ANALYSIS
Tutorials	NA	NA	NA

FEBRUARY	Theory:	<p>Structures of mononuclear and binuclear carbonyls of Cr, Mn, Fe, Co and Ni using VBT. π-acceptor behaviour of CO (MO diagram of CO to be discussed), synergic effect and use of IR data to explain extent of back bonding.</p> <p>Zeise's salt: Preparation and structure, evidences of synergic effect and comparison of synergic effect with that in carbonyls.</p> <p>Metal Alkyls: Important structural features of methyl lithium (tetramer) and trialkyl aluminium (dimer), concept of multicentre bonding in these compounds.</p> <p>Ferrocene: Preparation and reactions (acetylation, alkylation, metallation, Mannich Condensation). Structure and aromaticity. Comparison of aromaticity and reactivity with that of benzene.</p> <p>Catalysis by Organometallic Compounds</p> <p>Study of the following industrial processes and their mechanism:</p> <ol style="list-style-type: none"> 1. Alkene hydrogenation (Wilkinson's Catalyst) 2. Synthetic gasoline (Fischer Tropsch reaction) 3. Polymerisation of ethene using Ziegler-Natta catalyst 	B.Sc. (Hons.) Chemistry III Year	Paper 21-CHHT 615: Inorganic Chemistry -V IV
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Practicals:	ii. Estimation of copper as CuSCN iii. Estimation of iron as Fe ₂ O ₃ by precipitating iron as Fe(OH) ₃ . Inorganic Preparations: iii. Tetraamminecarbonatocobalt (III) nitrate iv. Potassium tri(oxalato)ferrate(III)	B.Sc. (Hons.) Chemistry II Year	Paper 13-CHHP 408: Inorganic Chemistry -III
	(i) To separate a mixture of Ni ²⁺ & Fe ²⁺ by complexation with DMG and extracting the Ni ²⁺ - DMG complex in chloroform, and determine its concentration by	B.Sc. (Hons.) Chemistry III Year	Paper 6-CHHP 204: ANALYTICAL METHODS IN CHEMICAL ANALYSIS
Tutorials:	NA	NA	NA

	Assignment :	Organometallics and Bioinorganic Chemistry	B.Sc. (Hons.) Chemistry III Year	Paper 21-CHHT 615: Inorganic Chemistry -V
MARCH	Theory:	Bioinorganic Chemistry: Metal ions present in biological systems, classification of elements according to their action in biological system. Geochemical effect on the distribution of metals. Sodium / K-pump, carbonic anhydrase and carboxypeptidase. Excess and deficiency of some trace metals. Toxicity of metal ions (Hg, Pb, Cd and As), reasons for toxicity, Use of chelating agents in medicine, Cisplatin as an anti-cancer drug. Iron and its application in bio-systems, Haemoglobin, Myoglobin; Storage and transfer of iron.	B.Sc. (Hons.) Chemistry III Year	Paper 21-CHHT 615: Inorganic Chemistry -V
	Practicals:	Estimation of Al(III) by precipitating with oxine and weighing as Al(oxine) ₃ (aluminium oxinate). Properties of Complexes i. Measurement of 10 Dq by spectrophotometric method	B.Sc. (Hons.) Chemistry II Year	Paper 13-CHHP 408: Inorganic Chemistry -III
		(iii) Estimation of calcium, magnesium (iv) Qualitative detection of nitrate, phosphate	B.Sc. (Hons.) Chemistry III Year	Paper 6-CHHP 204: ANALYTICAL METHODS IN CHEMICAL ANALYSIS

	Tutorials:	NA	NA	NA
	Test	Organometallics and Bioinorganic Chemistry	B.Sc. (Hons.) Chemistry III Year	Paper 21-CHHT 615: Inorganic Chemistry -V
APRIL	Theory:	<p>Catalysis by Organometallic Compounds Study of the following industrial processes and their mechanism:</p> <ol style="list-style-type: none"> 1. Alkene hydrogenation (Wilkinson's Catalyst) 2. Synthetic gasoline (Fischer Tropsch reaction) 3. Polymerisation of ethene using Ziegler-Natta catalyst 	B.Sc. (Hons.) Chemistry III Year	C Paper 21-CHHT 615: Inorganic Chemistry -V
	Practicals:	<ol style="list-style-type: none"> ii. Verification of spectrochemical series. iii. Synthesis of ammine complexes of Ni(II) and its ligand exchange reactions (e.g. bidentate ligands like acetylacetonone, DMG, glycine) by substitution method. 	B.Sc. (Hons.) Chemistry II Year	Paper 13-CHHP 408: Inorganic Chemistry -III
		Spectrophotometry Verification of Lambert-Beer's law and determination of concentration of a coloured species (CuSO ₄ , KMnO ₄)	B.Sc. (Hons.) Chemistry III Year	Paper 6-CHHP 204: ANALYTICAL METHODS IN CHEMICAL ANALYSIS

	Tutorials:	NA	NA	NA
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IQAC, SRI VENKATESWARA COLLEGE

SEMESTER WISE TEACHING PLAN

Jan-May 2017

Name of the Faculty: Dr. Neeru Kumar
Department: Electronics

Semester: VI

Month		Topics	Course	Paper Code/Name
January	Theory:	<p>Pulse Analog Modulation: Sampling theorem, Errors in Sampling. Pulse Amplitude Modulation (PAM)</p> <p>Time Division Multiplexing (TDM). Pulse Width Modulation (PWM) and Pulse Position Modulation (PPM). Generation and detection of PAM, PWM, PPM.</p> <p>Pulse Code Modulation: Need for digital transmission, Quantizing</p>	B.Sc. Electronics	ELHT602/Digital Communication
	Practicals:	<p>1.Study of Pulse Amplitude Modulation</p> <p>2.To study the I-V Characteristics of SCR</p> <p>3.To study the I-V Characteristics of Diac and Triac</p>	B.Sc. Electronics	ELHP-605: Electronics Practical-XI Based on Paper ELHT-601 and ELHT-602
	Tutorials:			
February	Theory:	<p>Pulse Code Modulation Uniform and Nonuniform Quantization, Quantization Noise, Companding, Coding, Digital Formats. Decoding, Regeneration, Transmission noise and Bit Error Rate. Differential Pulse Code Modulation, Delta Modulation, Quantization noise, Adaptive Delta Modulation. Time Division Multiplexing (TDM), T1/E1 carrier system</p>	B.Sc. Electronics	ELHT602/Digital Communication

	Practicals:	1.Study of Pulse Width Modulation 2.Study of Pulse Position Modulation 3.To study control of DC motor by SCR 4. Study of Delta Modulation 5. Study of Pulse Code Modulation	B.Sc. Electronics	ELHP-605: Electronics Practical-XI Based on Paper ELHT- 601 and ELHT- 602
	Tutorials:			
	Assignment		B.Sc. Electronics	
March	Theory:	Digital Carrier Modulation Techniques: Block diagram of digital transmission and reception. Information capacity, Bit Rate, Baud Rate and M-ary coding. Amplitude Shift Keying (ASK), Frequency Shift Keying (FSK), Phase Shift Keying (PSK), Binary Phase Shift Keying (BPSK) and Quadrature Phase Shift Keying (QPSK)	B.Sc. Electronics	ELHT602/Digital Communication
	Practicals:	1.Study of Phase Shift Keying, Frequency Shift Keying, Quadrature Phase Shift Keying 2. Study of Time Division Multiplexing.	B.Sc. Electronics	ELHP-605: Electronics Practical-XI Based on Paper ELHT- 601 and ELHT- 602
	Mid Term Test	Sem VI: Based on Unit 1 and 2		
April	Theory	Multiple Access Techniques: Concept of Frequency Division Multiple Access (FDMA), Code Division Multiple Access (CDMA). Overview of Modern Communication Systems: Mobile Communication, Satellite Communication and Optical Communication.	B.Sc. Electronics	ELHT602/Digital Communication
	Practicals:	1.To study characteristics of single phase induction motor. 2.To study characteristics of three phase induction motor	B.Sc. Electronics	ELHP-605: Electronics Practical-XI Based on Paper ELHT- 601 and ELHT- 602

Tutorials:			



SRI VENKATESWARA COLLEGE
SEMESTER WISE TEACHING PLAN (Year 2017-2018)

Name of the Faculty: Dr J Lalita

Department : Electronics ; Course :B.Tech / IV year

Semester: VIII

Paper : Semiconductor Fabrication and Characterization

Month		Topics	Course	Paper Code/Name
January	Theory	Introduction of Semiconductor Process Technology (Line width – 10 nm technology), Semiconductor materials, single crystal, polycrystalline and amorphous	B.Sc(Hons), Electronic Science / CBCS	Semiconductor Fabrication & Characterization
	Practicals	Resistivity measurement by four point probe method. Simulations based on Resistivity measurement .		
February	Theory	Crystal growth techniques: Si from the Czochralski technique, starting material, Distribution of dopants, Effective Segregation Coefficient. Silicon Float Zone Process, GaAs from Bridgman techniques. Wafer preparation. Epitaxy Deposition: Epitaxial growth by vapor phase epitaxy (VPE) and molecular beam epitaxy (MBE). Oxidation: Thermal Oxidation Process: Kinetics of Growth for thick and thin Oxide, Dry and Wet oxidation.	B.Sc(Hons), Electronic Science / CBCS	Semiconductor Fabrication & Characterization

	Practicals:	<ul style="list-style-type: none"> To measure the resistivity of semiconductor crystal with temperature by four –probe method. Oxidation process Simulation 		
March	Theory	Diffusion: Basic Diffusion Process: Diffusion Equation, Diffusion Profiles. Extrinsic Diffusion Concentration Dependent Diffusivity. Lateral Diffusion. Doping through Ion Implantation and its comparison with diffusion.	B.Sc(Hons), Electronic Science / CBCS	Semiconductor Fabrication & Characterization
	Practicals	Diffusion process simulation		
	<u>Assignment</u>			

April	Theory	Lithographic Processes: Clean room, Optical lithography, exposure tools, masks, Photoresist, Pattern Transfer, Resolution Enhancement Technique. Electron Beam Lithography, X-ray Lithography and Ion Beam Lithography. Comparison between various lithographic techniques.	B.Sc(Hons), Electronic Science / CBCS	Semiconductor Fabrication & Characterization
		Etching: Wet Chemical Etching-basic process and few examples of etchants for semiconductors, insulators and conductors; Dry etching using plasma etching technique.; Metallization: Uses of Physical Vapor Deposition and Chemical Vapor Deposition technique for Aluminum and Copper Metallization.		
	Practicals:	Lithography process simulation		
	<u>Mid Term Test</u>	Dates as per the college schedule :		
April-May	Theory:	Characterization: Various characterization methods for structural, electrical and optical properties. Basic idea of X-ray diffractometer, Scanning electron microscope, Transmission electron microscope and UV-VIS-NIR spectrophotometer.		

		<p>Process Integration: Passive components-Integrated Circuit Resistor, Integrated Circuit Inductor, Integrated Circuit Capacitor. Bipolar Technology: Basic fabrication process, Isolation techniques. MOSFET Technology: Basic fabrication process of NMOS, PMOS and CMOS technology.</p>		
	<p>Practicals:</p>	<p>Process integration simulation Optical bandgap measurement</p>		



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Academic Session 2016-2017 (Even Semester)

Name of the Faculty : **Dr Nutan Joshi**
Department : **Electronics**

Semester: Theory : **B.Sc(H) Electronics, Sem IV (CBCS)**
Practical : **B.Sc(H) Electronics, Sem IV (CBCS)**
B.Sc(H) Electronics, Sem VI (TYUP)

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Basic Operational Amplifier: Concept of differential amplifiers (Dual input balanced and unbalanced output), constant current bias, current mirror, cascaded differential amplifier stages with concept of level translator, block diagram of an operational amplifier (IC 741) Op-Amp parameters: input offset voltage, input offset current, input bias current, differential input resistance, input capacitance, offset voltage adjustment range, input voltage range, common mode rejection ratio, slew rate, supply voltage rejection ratio.	B.Sc.(Hons) Electronics, Sem IV	Core-Course-VIII/ Operational Amplifiers and Applications
	Practical	Study of op-amp characteristics: CMRR and Slew rate. Designing of an amplifier of given gain for an inverting and non-inverting configuration using an opamp. Designing of analog adder and subtractor circuit. Designing of an integrator using op-amp for a given specification and study its frequency response.	B.Sc.(Hons) Electronics, Sem IV	Core-Course-VIII/ Operational Amplifiers and Applications Lab
		Introduction to lab experiments , Study of the I-V Characteristics of Diode – Ordinary and Zener Diode,I-V Characteristics of CE configuration of BJT ,I-V Characteristics of the Common Base Configuration of BJT and obtain r_i , r_o , α ., Study of Hall Effect , Solar Cell (Different Experiments allotted to different groups) Study of Pulse Amplitude Modulation Study of Pulse Width Modulation Study of Pulse Position Modulation Study of Delta Modulation Study of Pulse Code Modulation Study of Phase Shift Keying, Frequency Shift Keying, Quadrature Phase Shift Keying Study of Time Division Multiplexing	B.Sc.(Hons) Electronics, Sem II B.Sc.(Hons) Electronics, Sem VI (TYUP)	Core-Course-III/ Semiconductor Devices ELHP-605/ Electronics Practical-XI Based on Paper ELHT-601 and ELHT-602

		<p>Study of single phase rectifier – half wave and full wave</p> <p>To study the I-V Characteristics of SCR</p> <p>To study the I-V Characteristics of Diac and Triac</p> <p>To study Inverter circuit (SCR based) for different configuration</p> <p>To study the characteristics of DC motor – series and shunt</p> <p>To study characteristics of single phase induction motor</p> <p>To study characteristics of three phase induction motor</p> <p>To study control of DC motor by SCR</p> <p>(Different Experiments allotted to different groups)</p>		
FEBRUARY	Theory	<p>Op-Amp Circuits: Open and closed loop configuration, Frequency response of an op-amp in open loop and closed loop configurations, Inverting, Non-inverting, Summing and difference amplifier, Integrator, Differentiator, Voltage to current converter, Current to voltage converter.</p> <p>Comparators: Basic comparator, Level detector, Voltage limiters, Schmitt Trigger.</p>	B.Sc.(Hons) Electronics, Sem IV	Core-Course-VIII/ Operational Amplifiers and Applications
	Practical	<p>Designing of a differentiator using op-amp for a given specification and study its frequency response.</p> <p>Designing of a First Order Low-pass filter using op-amp.</p> <p>Designing of a First Order High-pass filter using op-amp</p> <p>Designing of a RC Phase Shift Oscillator using op-amp.</p> <p>Study of IC 555 as an astable multivibrator.</p> <p>Study of IC 555 as monostable multivibrator.</p> <p>Designing of Fixed voltage power supply using IC regulators using 78 series and 79 series</p> <p>(Different Experiments allotted to different groups)</p>	B.Sc.(Hons) Electronics, Sem IV	Core-Course-VIII/ Operational Amplifiers and Applications Lab
		<p>Study of the I-V Characteristics of Diode – Ordinary and Zener Diode, I-V Characteristics of CE configuration of BJT ,I-V Characteristics of the Common Base Configuration of BJT and obtain r_i, r_o, α., Study of Hall Effect, I-V Characteristics of the UJT, I-V Characteristics of the SCR , Solar Cell</p> <p>(Different Experiments allotted to different groups)</p>	B.Sc.(Hons) Electronics, Sem II	Core-Course-III/ Semiconductor Devices
		<p>Study of Pulse Amplitude Modulation</p> <p>Study of Pulse Width Modulation</p> <p>Study of Pulse Position Modulation</p> <p>Study of Delta Modulation</p> <p>Study of Pulse Code Modulation</p> <p>Study of Phase Shift Keying, Frequency Shift Keying, Quadrature Phase Shift Keying</p> <p>Study of Time Division Multiplexing</p> <p>Study of single phase rectifier – half wave</p>	B.Sc.(Hons) Electronics, Sem VI (TYUP)	ELHP-605/ Electronics Practical-XI Based on Paper ELHT-601 and ELHT-602

		<p>and full wave To study the I-V Characteristics of SCR To study the I-V Characteristics of Diac and Triac To study Inverter circuit (SCR based) for different configuration To study the characteristics of DC motor – series and shunt To study characteristics of single phase induction motor To study characteristics of three phase induction motor To study control of DC motor by SCR (Different Experiments allotted to different groups)</p>		
	Assignment	As per the syllabus covered		
MARCH	Theory	<p>Signal generators: Phase shift oscillator, Wein bridge oscillator, Square wave generator, triangle wave generator, saw tooth wave generator, and Voltage controlled oscillator(IC 566). Multivibrators (IC 555): Block diagram, Astable and monostable multivibrator circuit, Applications of Monostable and Astable multivibrators. Phase locked loops (PLL): Block diagram, phase detectors,</p>	B.Sc.(Hons) Electronics, Sem IV	Core-Course-VIII/ Operational Amplifiers and Applications
	Practical	<p>Designing of a differentiator using op-amp for a given specification and study its frequency response. Designing of a First Order Low-pass filter using op-amp. Designing of a First Order High-pass filter using op-amp Designing of a RC Phase Shift Oscillator using op-amp. Study of IC 555 as an astable multivibrator. Study of IC 555 as monostable multivibrator. Designing of Fixed voltage power supply using IC regulators using 78 series and 79 series (Different Experiments allotted to different groups)</p>	B.Sc.(Hons) Electronics, Sem IV	Core-Course-VIII/ Operational Amplifiers and Applications Lab
		<p>Study of the I-V Characteristics of Diode – Ordinary and Zener Diode,I-V Characteristics of CE configuration of BJT ,I-V Characteristics of the Common Base Configuration of BJT and obtain r_i, r_o, α, I-V Characteristics of the SCR ,Study of Hall Effect, I-V Characteristics of the UJT , Solar Cell , I-V Characteristics of the JFET , MOSFET (Different Experiments allotted to different groups)</p>	B.Sc.(Hons) Electronics, Sem II	Core-Course-III/ Semiconductor Devices
		<p>Study of Pulse Amplitude Modulation Study of Pulse Width Modulation Study of Pulse Position Modulation Study of Delta Modulation Study of Pulse Code Modulation Study of Phase Shift Keying, Frequency Shift Keying, Quadrature Phase Shift Keying</p>	B.Sc.(Hons) Electronics, Sem VI (TYUP)	ELHP-605/ Electronics Practical-XI Based on Paper ELHT-601 and ELHT-602

		<p>Study of Time Division Multiplexing</p> <p>Study of single phase rectifier – half wave and full wave</p> <p>To study the I-V Characteristics of SCR</p> <p>To study the I-V Characteristics of Diac and Triac</p> <p>To study Inverter circuit (SCR based) for different configuration</p> <p>To study the characteristics of DC motor – series and shunt</p> <p>To study characteristics of single phase induction motor</p> <p>To study characteristics of three phase induction motor</p> <p>To study control of DC motor by SCR</p> <p>(Different Experiments allotted to different groups)</p>		
	Mid Term Test	As per the syllabus covered		
APRIL	Theory	<p>IC565.</p> <p>Fixed and variable IC regulators: IC 78xx and IC 79xx -concepts only, IC LM317-output voltage equation</p> <p>Signal Conditioning circuits: Sample and hold systems, Active filters: First order low pass and high pass</p> <p>butterworth filter, Second order filters, Band pass filter, Band reject filter, All pass filter, Log and antilog amplifiers.</p>	B.Sc.(Hons) Electronics, Sem IV	Core-Course-VIII/ Operational Amplifiers and Applications
	Practical	<p>Designing of a differentiator using op-amp for a given specification and study its frequency response.</p> <p>Designing of a First Order Low-pass filter using op-amp.</p> <p>Designing of a First Order High-pass filter using op-amp</p> <p>Designing of a RC Phase Shift Oscillator using op-amp.</p> <p>Study of IC 555 as an astable multivibrator.</p> <p>Study of IC 555 as monostable multivibrator.</p> <p>Designing of Fixed voltage power supply using IC regulators using 78 series and 79 series</p> <p>(Different Experiments allotted to different groups)</p>	B.Sc.(Hons) Electronics, Sem IV	Core-Course-VIII/ Operational Amplifiers and Applications Lab
		<p>Study of the I-V Characteristics of CE configuration of BJT ,I-V Characteristics of the Common Base Configuration of BJT and obtain r_i, r_o, α., I-V Characteristics of the SCR, Study of Hall Effect, I-V Characteristics of the UJT , Solar Cell , I-V Characteristics of the JFET , MOSFET</p> <p>(Different Experiments allotted to different groups)</p>	B.Sc.(Hons) Electronics, Sem II	Core-Course-III/ Semiconductor Devices
		<p>Study of Pulse Amplitude Modulation</p> <p>Study of Pulse Width Modulation</p> <p>Study of Pulse Position Modulation</p> <p>Study of Delta Modulation</p> <p>Study of Pulse Code Modulation</p> <p>Study of Phase Shift Keying, Frequency Shift Keying, Quadrature Phase Shift Keying</p>	B.Sc.(Hons) Electronics, Sem VI (TYUP)	ELHP-605/ Electronics Practical-XI Based on Paper and ELHT-601 and ELHT-602

		<p>Study of Time Division Multiplexing Study of single phase rectifier – half wave and full wave To study the I-V Characteristics of SCR To study the I-V Characteristics of Diac and Triac To study Inverter circuit (SCR based) for different configuration To study the characteristics of DC motor – series and shunt To study characteristics of single phase induction motor To study characteristics of three phase induction motor To study control of DC motor by SCR (Different Experiments allotted to different groups)</p>		
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SEMESTER-WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Jan-May 2016-2017

Name of the Faculty: Dr. Sunita Jain

Department: Electronics

Semester: VI

Month		Topics	Course	Paper Code/Name
JAN	Theory	Introduction to e.m waves, concept of spherical & plane waves, reflection and transmission, total internal reflection, Brewster's law, origin of refractive index and dispersion Interference, division of wavefront, division of amplitude, Interference based on division of wavefront (Fresnel double slit and Lloyd).	B.Sc. (H)	ELHT-603
	Practical	Sem VI: To verify the law of Malus for plane polarized light. 2. To determine refractive index of the material of a given prism using Sodium Light. 3. To determine the resolving power of a prism.	B.Sc. (H)	ELHP-606
FEBRUARY	Theory	Michelson Interferometer, Multiple beam interference, Fabry- Perot Interferometer, Diffraction by rectangular aperture, single slit, double slit, circular aperture Resolving and dispersive power of telescope and microscope.	B.Sc. (H)	ELHT-603
	Practical	Sem VI: To determine wavelength of sodium light using Newton's Rings. To determine the resolving power and Dispersive power of Diffraction Grating	B.Sc. (H)	ELHP-606
	Assignment	Questions based on interference and diffraction	B.Sc. (H)	ELHT-603
MARCH	Theory	Polarization, Linear circular and elliptical polarization, Malus Law, Double refraction, half and quarter wave plate, liquid crystal display, Huygen's and Ramsden's eyepiece, chromatic and primary aberrations.	B.Sc. (H)	ELHT-603
	Practical	Sem VI: To determine the specific rotation of scan sugar using polarimeter. Characteristics of LEDs and Photodetector.	B.Sc. (H)	ELHP-606
	Mid-Term Test	Questions based on interference, diffraction and polarization		

APRIL	Theory	Optical fiber, LED, Interaction of radiation and matter, Einstein coefficients, Condition for amplification, laser cavity, threshold for laser oscillation, line shape function. Examples of common lasers. The semiconductor injection laser diode. Holography Photodetectors: Bolometer, Photomultiplier tubes, Charge Coupled Devices; Photodiodes (p-n, p-i-n, avalanche), quantum efficiency and responsivity	B.Sc. (H)	ELHT-603
	Practical	Sem VI: Diffraction experiments using a laser. Single slit, double slit diffraction grating and circular aperture	B.Sc. (H)	ELHP 606



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Academic Session 2016-2017 (Even Semester)

Name of the Faculty : **Mr Hari Singh**
Department : **Electronics**

Semester: Theory : **B.Sc(H) Electronics, Sem II**

Practical : **B.Sc(H) Electronics, Sem II**
B.Sc(H) Electronics, Sem IV

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Electric and Magnetic Properties: Conductivity of metals, Ohm's Law, relaxation time, collision time and mean free path, electron scattering and resistivity of metals, heat developed in current carrying conductor, Superconductivity. Classification of Magnetic Materials, Origin of Magnetic moment, Origin of dia, para, ferro and antiferro magnetism and their comparison, Ferrimagnetic materials, Saturation Magnetisation and Curie temperature, Magnetic domains, Concepts of Giant Magnetic Resistance (GMR), Magnetic recording.	B.Sc.(Hons) Electronics, Sem II	Core-Course-IV/ Applied Physics
		Transformers and Rectifiers: Types of transformers, Transformer Construction, E.m.f. equation, No load operation, Operation under load, Phasor diagram, Transformer Losses, Voltage regulation, condition for maximum efficiency, All day efficiency, Short circuit and open circuit tests, Auto transformers,	B.Sc.(Hons) Electronics, Sem VI	ELHT-601/ Electrical Machines
	Practical	To determine Young's modulus of a wire by optical lever method. To determine the modulus of rigidity of a wire by Maxwell's needle. To determine the elastic constants of a wire by Searle's method. To measure the resistivity of a Ge crystal with temperature by four – probe method from room temperature to 200 0C). To determine the value of Boltzmann Constant by studying forward characteristics of diode. To determine the value of Planck's constant by using LEDs of at least 4 different wavelengths. To determine e/m of electron by Bar Magnet or by Magnetic Focusing. (Different Experiments allotted to different groups) To measure the resistivity of semiconductor crystal with temperature by four –probe method.	B.Sc.(Hons) Electronics, Sem II	Core-Course-IV/ Applied Physics Lab
			B.Tech Electronics, Sem VIII	EL-801/ Semiconductor Fabrication and

		<p>To determine the type (n or p) and mobility of semiconductor material using Hall-effect. Oxidation process Simulation Diffusion Process Simulation To design a pattern using photolithographic process and its simulation Process integration simulation (Different Experiments allotted to different groups)</p> <p>Practical Based on Robotics</p>	B.Sc.(Hons) Electronics, Sem IV	<p>Characterization</p> <p>SEC-II/Robotics</p>
FEBRUARY	Theory	<p>Thermal Properties: Brief Introduction to Laws of Thermodynamics, Concept of Entropy, Concept of Phonons, Heat Capacity, Debye's Law, Lattice Specific Heat, Electronic Specific Heat, Specific Heat Capacity for Si and GaAs, Thermal Conductivity, Thermoelectricity, Seebeck Effect, Thomson Effect, Peltier Effect Mechanical Properties of Materials: Elastic and Plastic Deformations, Hooke's Law, Elastic Moduli, Brittle, and Ductile Materials, Tensile Strength, Theoretical and Critical Shear Stress of Crystals,</p> <p>Polyphase Circuits, Three phase transformers, Delta-Delta and Delta-Y connections, Rectifiers-Three phase rectifiers with filtering circuits</p>	<p>B.Sc.(Hons) Electronics, Sem II</p> <p>B.Sc.(Hons) Electronics, Sem VI</p>	<p>Core-Course-IV/ Applied Physics</p> <p>ELHT-601/ Electrical Machines</p>
	Practical	<p>To determine Young's modulus of a wire by optical lever method. To determine the modulus of rigidity of a wire by Maxwell's needle. To determine the elastic constants of a wire by Searle's method.To measure the resistivity of a Ge crystal with temperature by four – probe method from room temperature to 200 OC). To determine the value of Boltzmann Constant by studying forward characteristics of diode.To determine the value of Planck's constant by using LEDs of at least 4 different wavelengths. To determine e/m of electron by Bar Magnet or by Magnetic Focusing. (Different Experiments allotted to different groups)</p> <p>To measure the resistivity of semiconductor crystal with temperature by four –probe method. To determine the type (n or p) and mobility of semiconductor material using Hall-effect. Oxidation process Simulation Diffusion Process Simulation To design a pattern using photolithographic process and its simulation Process integration simulation (Different Experiments allotted to different groups)</p>	<p>B.Sc.(Hons) Electronics, Sem II</p> <p>B.Tech Electronics, Sem VIII</p>	<p>Core-Course-IV/ Applied Physics Lab</p> <p>EL-801/ Semiconductor Fabrication and Characterization</p>

		Practical Based on Robotics	B.Sc.(Hons) Electronics, Sem IV	SEC-II/Robotics
	Assignment	As per the syllabus covered		
MARCH	Theory	<p>Strengthening Mechanisms, Hardness, Creep, Fatigue, Fracture.</p> <p>Quantum Physics: Inadequacies of Classical physics. Compton's effect, Photo-electric Effect, Wave-particle duality, de Broglie waves. Basic postulates and formalism of quantum mechanics: probabilistic interpretation of waves, conditions for physical acceptability of wave functions. Schrodinger wave equation for a free particle and in a force field (1 dimension), Boundary and continuity conditions. Operators in Quantum Mechanics, Conservation of probability, Time-dependent form, Linearity and superposition, Operators, Timeindependent one dimensional Schrodinger wave equation, Stationary states, Eigen-values and Eigen functions.</p> <p>Poly Phase Induction Motors: General constructional features, Types of motors, Rotating magnetic field, Production of torque, Slip, equivalent circuit, Phasor diagram, Torque equation, Torque-slip characteristics;</p>	<p>B.Sc.(Hons) Electronics, Sem II</p> <p>B.Sc.(Hons) Electronics, Sem VI</p>	<p>Core-Course-IV/ Applied Physics</p> <p>ELHT-601/ Electrical Machines</p>
	Practical	<p>To determine Young's modulus of a wire by optical lever method.</p> <p>To determine the modulus of rigidity of a wire by Maxwell's needle.</p> <p>To determine the elastic constants of a wire by Searle's method. To measure the resistivity of a Ge crystal with temperature by four – probe method from room temperature to 200 OC).</p> <p>To determine the value of Boltzmann Constant by studying forward characteristics of diode. To determine the value of Planck's constant by using LEDs of at least 4 different wavelengths.</p> <p>To determine e/m of electron by Bar Magnet or by Magnetic Focusing.</p> <p>(Different Experiments allotted to different groups)</p> <p>To measure the resistivity of semiconductor crystal with temperature by four –probe method.</p> <p>To determine the type (n or p) and mobility of semiconductor material using Hall-effect.</p> <p>Oxidation process Simulation Diffusion Process Simulation</p> <p>To design a pattern using photolithographic process and its simulation Process integration simulation</p> <p>(Different Experiments allotted to different groups)</p>	<p>B.Sc.(Hons) Electronics, Sem II</p> <p>B.Tech Electronics, Sem VIII</p>	<p>Core-Course-IV/ Applied Physics Lab</p> <p>EL-801/ Semiconductor Fabrication and Characterization</p>

		Practical Based on Robotics	B.Sc.(Hons) Electronics, Sem IV	SEC-II/Robotics
	Mid Term Test	As per the syllabus covered		
APRIL	Theory	Particle in a one-dimensional box, Extension to a three dimensional box, Potential barrier problems, phenomenon of tunneling. Kronig Penney Model and development of band structure. Spherically symmetric potentials, the Hydrogen-like atom problem. Effect of rotor resistance, Brief idea of double cage and deep bar rotor motor, Automatic push button and other types of starters, Speed control of induction motors	B.Sc.(Hons) Electronics, Sem II B.Sc.(Hons) Electronics, Sem VI	Core-Course-IV/ Applied Physics ELHT-601/ Electrical Machines
	Practical	To determine Young's modulus of a wire by optical lever method. To determine the modulus of rigidity of a wire by Maxwell's needle. To determine the elastic constants of a wire by Searle's method. To measure the resistivity of a Ge crystal with temperature by four – probe method from room temperature to 200 OC). To determine the value of Boltzmann Constant by studying forward characteristics of diode. To determine the value of Planck's constant by using LEDs of at least 4 different wavelengths. To determine e/m of electron by Bar Magnet or by Magnetic Focusing. (Different Experiments allotted to different groups) To measure the resistivity of semiconductor crystal with temperature by four –probe method. To determine the type (n or p) and mobility of semiconductor material using Hall-effect. Oxidation process Simulation Diffusion Process Simulation To design a pattern using photolithographic process and its simulation Process integration simulation (Different Experiments allotted to different groups) Practical Based on Robotics	B.Sc.(Hons) Electronics, Sem II B.Tech Electronics, Sem VIII B.Sc.(Hons) Electronics, Sem IV	Core-Course-IV/ Applied Physics Lab EL-801/ Semiconductor Fabrication and Characterization SEC-II/Robotics



IQAC, SRI VENKATESWARA COLLEGE

SEMESTER WISE TEACHING PLAN

Jan-May 2017

Name of the Faculty: Shubhra Gupta

Department: Electronics

Semester: Theory : BSc(Hons) Electronics Semester II

BTech Electronics Semester VIII

Practicals : BSc(Hons) Electronics Semester II

BSc(Hons) Electronics Semester IV

Month		Topics	Course	Paper Code/Name
JANUARY	Theory:	<p>SEM II : Unit 1 : Semiconductor Basics: Introduction to Semiconductor Materials, Crystal Structure, Planes and Miller Indices, Energy Band in Solids, Concept of Effective Mass, Density of States, Carrier Concentration at Normal Equilibrium in Intrinsic Semiconductors, Derivation of Fermi Level for Intrinsic & Extrinsic Semiconductors, Donors, Acceptors, Dependence of Fermi Level on Temperature and Doping Concentration, Temperature Dependence of Carrier Concentrations. Carrier Transport Phenomena: Carrier Drift, Mobility, Resistivity, Hall Effect, Diffusion Process, Einstein Relation, Current Density Equation, Carrier injection, Generation And Recombination Processes, Continuity Equation.</p> <p>Unit 2 : P-N Junction Diode: Formation of Depletion Layer</p>	BSc (Hons) Electronics	CC III : Semiconductor Devices
		<p>SEM VIII : Unit-1 DC Machines Basics: Basic constructional features and physical principles involved in electrical machines, armature winding (ac and dc), lap and wave connections , Coil Span, Commutation Pitch, Resultant Pitch, commutator, equalizer rings. D.C. Generators: Construction and principles of operation, , Brief ideas about armature reaction and commutation , E.M.F. Equation, Methods of excitation, Characteristics of Self excited and Separately (Shunt, Compound and Series) excited generators (1), Losses and efficiency, applications.</p>	BTech Electronics	EL 803 : Electrical Technology

	Practicals:	<p>SEM II : Introduction to lab experiments , Study of the I-V Characteristics of Diode – Ordinary and Zener Diode,I-V Characteristics of CE configuration of BJT ,I-V Characteristics of the Common Base Configuration of BJT and obtain r_i, r_o, α., Study of Hall Effect , Solar Cell(Alloted To Different Groups)</p> <p>SEM IV : Generation of Signals: continuous time , Generation of Signals: discrete time , Time shifting and time scaling of signals</p>	BSc (Hons) Electronics	CC III Lab: Semiconductor Devices CC IX Lab : Signals and Systems
	Tutorials:			
FEBRUARY	Theory:	<p>SEM II : Unit 2 :Space Charge at a Junction, Derivation of Electrostatic Potential Difference at Thermal Equilibrium, Depletion Width and Depletion Capacitance of an Abrupt Junction. Concept of Linearly Graded Junction, Derivation of Diode Equation and I-V Characteristics. Zener and Avalanche Junction Breakdown Mechanism.Tunnel diode, varactor diode, solar cell: circuit symbol, characteristics, applications</p> <p>Unit 3 : Bipolar Junction Transistors (BJT): PNP and NPN Transistors, Basic Transistor Action, Emitter Efficiency , Base Transport Factor, Current Gain</p>	BSc (Hons) Electronics	CC III : Semiconductor Devices
		<p>SEM VIII : D.C. Motors: Comparison of generator and motor action, Significance of back EMF, Maximum power, Torque and speed relation, Characteristics of series, shunt and Compound excited, necessity of motor starters, Three point starter, Speed control using SCR.</p> <p>Unit 4 : Synchronous Machines: Brief construction details of three phase synchronous generators,</p>	BTech Electronics	EL 803 : Electrical Technology
	Practicals:	<p>SEM II : Study of the I-V Characteristics of Diode – Ordinary and Zener Diode,I-V Characteristics of CE configuration of BJT ,I-V Characteristics of the Common Base Configuration of BJT and obtain r_i, r_o, α., Study of Hall Effect, I-V Characteristics of the UJT, I-V Characteristics of the SCR , Solar Cell (Alloted To Different Groups)</p> <p>SEM IV: . Convolution , Solution of Difference equation , Step and impulse response</p>	BSc (Hons) Electronics	CC III Lab: Semiconductor Devices CC IX Lab : Signals and Systems

	Practicals:	<p>SEM II : Study of the I-V Characteristics of Diode – Ordinary and Zener Diode, I-V Characteristics of CE configuration of BJT ,I-V Characteristics of the Common Base Configuration of BJT and obtain r_i, r_o, α, I-V Characteristics of the SCR ,Study of Hall Effect, I-V Characteristics of the UJT , Solar Cell , I-V Characteristics of the JFET , MOSFET (Alloted To Different Groups)</p> <p>SEM IV : Laplace transform and Fourier transform of continuous time signals, generation of Fourier series through Simulink</p>	BSc (Hons) Electronics	CC III Lab: Semiconductor Devices CC IX Lab : Signals and Systems
	Tutorials:			
	Mid Term Test	<p>SEM II : Unit 1 and Unit 2</p> <p>SEM VI : Unit 1</p>	BSc (Hons) Electronics BTech Electronics	CC III : Semiconductor Devices EL 803 : Electrical Technology
APRIL	Theory	<p>SEM II : Unit 4: Enhancement type MOSFET (both N channel and P channel). Complimentary MOS (CMOS). Power Devices: UJT, Basic construction and working, Equivalent circuit, intrinsic Standoff Ratio, Characteristics and relaxation oscillator-expression. SCR, Construction, Working and Characteristics, Triac, Diac, IGBT, MESFET, Circuit symbols, Basic constructional features, Operation and Applications.</p> <p>SEM VIII : Unit 4 : Reluctance Motor, Stepper Motor, Single phase a.c. series motors, Universal motor.</p> <p>Introduction to poly phase induction motor and Ferraris Principle</p>	BSc (Hons) Electronics BTech Electronics	CC III : Semiconductor Devices EL 803 : Electrical Technology

	Practicals:	<p>SEM II : Study of the I-V Characteristics of CE configuration of BJT ,I-V Characteristics of the Common Base Configuration of BJT and obtain r_i, r_o, α, I-V Characteristics of the SCR, Study of Hall Effect, I-V Characteristics of the UJT , Solar Cell , I-V Characteristics of the JFET , MOSFET (Alloted To Different Groups)</p> <p>SEM IV : Using Simulink for designing systems through transfer function. , Design of Low pass, high pass, band pass filters and studying the frequency response.</p>	BSc (Hons) Electronics	CC III Lab: Semiconductor Devices CC IX Lab : Signals and Systems
	Tutorials:			

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IQAC, SRI VENKATESWARA COLLEGE

SEMESTER WISE TEACHING PLAN

Jan-May 2017

Name of the Faculty: Dr. Rakhi Narang
Department: Electronics

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
January	Theory:	Sem IV: Continuous and discrete time signals, Transformation of the independent variable, Exponential and sinusoidal signals, Impulse and unit step functions, Continuous-Time and Discrete-Time Systems, Basic System Properties. Discrete time LTI systems, the Convolution Sum Sem VI:	B.Sc. Electronics	Core course-IX Signals and Systems
	Practicals:	Sem IV: 1. Generation of Signals: continuous time 2. Generation of Signals: discrete time 3. Time shifting and time scaling of signals.	B.Sc. Electronics	Core course-IX Signals and Systems Lab
		Sem IV: 1. Study of op-amp characteristics: CMRR and Slew rate. 2. Designing of an amplifier of given gain for an for an inverting and non-inverting configuration using an op-amp	B.Sc. Electronics	Core course-VIII Operational Amplifiers and Applications Lab
		Sem IV: Design of multi range ammeter and voltmeter using galvanometer. 2. Measurement of resistance by Wheatstone bridge and measurement of bridge sensitivity. 3. Measurement of Capacitance by de'Sautys.	B.Sc. Electronics	Core course-X Electronic Instrumentation Lab
Tutorials:				
February	Theory:	Sem IV: Continuous time LTI systems, the Convolution integral. Properties of LTI systems, Commutative, Distributive, Associative. LTI systems with and without memory, Invariability, Causality, Stability, Unit Step response. Differential and Difference equation formulation, Block diagram representation of first order systems	B.Sc. Electronics	Core course-IX Signals and Systems

	Practicals:	<p>Sem IV: 1. Convolution 2. Solution of Difference equation. 3. Step and impulse response</p> <p>Sem IV: Designing of analog adder and subtractor circuit inverting and non-inverting configuration using an op-amp. Designing of an integrator using op-amp for a given specification and study its frequency response. Designing of a differentiator using op-amp for a given specification and study its frequency response.</p> <p>Sem IV: Design of multi range ammeter and voltmeter using galvanometer. Measurement of temperature by Thermocouples To study the Characteristics of Photodiode, and Phototransistor</p>	B.Sc. Electronics	Core course-IX Signals and Systems Lab
			B.Sc. Electronics	Core course-VIII Operational Amplifiers and Applications Lab
			B.Sc. Electronics	Core course-X Electronic Instrumentation Lab
	Tutorials:			
	Assignment	Sem IV: Assignment based on Unit I	B.Sc. Electronics	Core course-IX Signals and Systems
March	Theory:	Sem IV: Laplace Transform, Inverse Laplace Transform, Properties of the Laplace Transform, Laplace Transform Pairs, Laplace Transform for signals, Laplace Transform Methods in Circuit Analysis, Impulse and Step response of RL, RC and RLC circuits. Continuous-Time periodic signals, Convergence of the Fourier series, Properties of continuous-Time Fourier series, Discrete-Time periodic signals	B.Sc. Electronics	Core course-IX Signals and Systems
	Practicals:	<p>Sem IV: Laplace transform and Fourier transform of continuous time signals, generation of Fourier series through Simulink</p> <p>Sem IV: Designing of a First Order Low-pass filter using op-amp. Designing of a First Order High-pass filter using op-amp. Designing of a RC Phase Shift Oscillator using op-amp.</p> <p>Sem IV: Measure of low resistance by Kelvin's double bridge. To determine the Characteristics of resistance transducer - Strain Gauge (Measurement of Strain using half and full bridge.) To determine the Characteristics of LVDT</p>	B.Sc. Electronics	Core course-IX Signals and Systems Lab
			B.Sc. Electronics	Core course-VIII Operational Amplifiers and Applications Lab
			B.Sc. Electronics	Core course-X Electronic Instrumentation Lab

	Mid Term Test	Sem IV: Based on Unit 1 and 2		
April	Theory	<p>Sem IV: Properties of Discrete-Time Fourier series. Frequency-Selective filters, Simple RC highpass and lowpass filters</p> <p>Fourier Transform: Aperiodic signals, Periodic signals, Properties of Continuous-time Fourier transform, Convolution and Multiplication Properties, Properties of Fourier transform and basic Fourier transform Pairs.</p>	B.Sc. Electronics	Core course-IX Signals and Systems
	Practicals:	<p>Sem IV: 1. Using Simulink for designing systems through transfer function. 2. Design of Low pass, high pass, band pass filters and studying the frequency response.</p> <p>Sem IV: Study of IC 555 as an astable multivibrator. Study of IC 555 as monostable multivibrator. Designing of Fixed voltage power supply using IC regulators using 78 series and 79 series</p> <p>Sem IV: Measure of low resistance by Kelvin's double bridge. To determine the Characteristics of resistance transducer - Strain Gauge (Measurement of Strain using half and full bridge.) To determine the Characteristics of LVDT</p>	B.Sc. Electronics	Core course-IX Signals and Systems
	Tutorials:			



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Academic Session 2016-2017 (Even Semester)

Name of the Faculty : **Dr Neha Verma**
Department : **Electronics**

Semester: Theory : **B.Sc(H) Electronics, Sem II**
B.Tech. Electronics, Sem VIII

Practical : **B.Sc(H) Electronics, Sem II**
B.Tech. Electronics, Sem VIII
B.Sc(H) Electronics, Sem VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Linear Differential Equations of Second Order and Higher Order: Linear Independence and Dependence, Linear Differential Equations of Second Order with Variable Coefficients, Second Order Differential Equations with Constant Coefficients: Homogeneous, Higher Order Linear Homogeneous Differential Equations, Non-Homogeneous Equations, Differential Equation with Variable Coefficients: Reducible to Equations with Constant Coefficients, Method of Variation of Parameters, Modeling of forced oscillations, Resonance, Electric Circuits, System of Simultaneous Linear Differential Equations with Constant Coefficients. Series Solutions of Differential Equations and Special Functions: Power Series Method, Legendre Polynomials	B.Sc.(Hons) Electronics, Sem II	ELHT-604/ Engineering Mathematics
		Transformers: Types of transformers, Transformer Construction, E.m.f. equation, No load operation, Operation under load, Phasor diagram, Transformer Losses, Voltage regulation, condition for maximum efficiency, All day efficiency, Short circuit and open circuit tests, Auto transformers.	B.Tech. Electronics, Sem VIII	EL-803/ Electrical Technology
	Practical	To determine Young's modulus of a wire by optical lever method. To determine the modulus of rigidity of a wire by Maxwell's needle. To determine the elastic constants of a wire by Searle's method. To measure the resistivity of a Ge crystal with temperature by four – probe method from room temperature to 200 0C). To determine the value of Boltzmann Constant by studying forward characteristics of diode. To determine the value of Planck's constant by using LEDs of at least 4 different wavelengths. To determine e/m of electron by Bar Magnet or by Magnetic Focusing.	B.Sc.(Hons) Electronics, Sem II	Core-Course-IV/ Applied Physics Lab

		<p>(Different Experiments allotted to different groups)</p> <p>To study the characteristics of DC Series motor . To study the characteristics of DC Shunt motor. To study characteristics of single phase induction motor. To study control of DC motor by SCR. To Study Stepper Motor. To Study Open Circuit Test on single phase transformer. To Study Short Circuit Test on single phase transformer.</p> <p>(Different Experiments allotted to different groups)</p> <p>To verify the law of Malus for plane polarized light. To determine refractive index of the material of a given prism using Sodium Light. To determine the resolving power of a prism.</p>	<p>B.Tech Electronics, Sem VIII</p> <p>B.Sc.(Hons) Electronics, Sem VI</p>	<p>EL-803/ Electrical Technology Lab</p> <p>ELHP-606/ Electronics Practical-XII Based on Paper ELHT-603</p>
FEBRUARY	Theory	<p>Frobenius Method, Bessel's equations and Bessel's functions of first and second kind. Sturm Liouville problems and orthogonal functions. Gamma and Beta Functions. First Order, Linear Equations of First Order, Non-linear Partial Differential Equations of First Order</p> <p>Polyphase Circuits: Polyphase circuits, three phase transformers, delta-delta and delta –Y connection, Rectifier using SCR, Chopper, Inverter.</p>	<p>B.Sc.(Hons) Electronics, Sem II</p> <p>B.Tech. Electronics, Sem VIII</p>	<p>ELHT-604/ Engineering Mathematics</p> <p>EL-803/ Electrical Technology</p>
	Practical	<p>To determine Young's modulus of a wire by optical lever method. To determine the modulus of rigidity of a wire by Maxwell's needle. To determine the elastic constants of a wire by Searle's method.To measure the resistivity of a Ge crystal with temperature by four – probe method from room temperature to 200 OC). To determine the value of Boltzmann Constant by studying forward characteristics of diode.To determine the value of Planck's constant by using LEDs of at least 4 different wavelengths. To determine e/m of electron by Bar Magnet or by Magnetic Focusing.</p> <p>(Different Experiments allotted to different groups)</p> <p>To study the characteristics of DC Series motor . To study the characteristics of DC Shunt motor. To study characteristics of single phase induction motor. To study control of DC motor by SCR. To Study Stepper Motor. To Study Open Circuit Test on single phase transformer.</p>	<p>B.Sc.(Hons) Electronics, Sem II</p> <p>B.Tech Electronics, Sem VIII</p>	<p>Core-Course-IV/ Applied Physics Lab</p> <p>EL-803/ Electrical Technology Lab</p>

		<p>To Study Short Circuit Test on single phase transformer.</p> <p>(Different Experiments allotted to different groups)</p> <p>To determine wavelength of sodium light using Newton's Rings.</p> <p>To determine the resolving power and Dispersive power of Diffraction Grating</p>	B.Sc.(Hons) Electronics, Sem VI	ELHP-606/ Electronics Practical-XII Based on Paper ELHT-603
	Assignment	As per the syllabus covered		
MARCH	Theory	<p>Partial Differential Equations: Formation of Partial Differential Equation, Partial Differential Equation of Method of Separation of Variables, Classification of Partial Differential Equations of Second Order. Modeling a Vibrating string and the Wave Equation, Separation of Variables and Use of Fourier series. Applications of Partial Differential Equations: D'Alembert's Solution of the Wave Equation, Heat Equation: Solution by Fourier Series, Solution by Fourier Integrals and transformation. Membrane</p> <p>Poly Phase Induction Motors: General constructional features, Types of rotors, Rotating magnetic field (Ferrari's Principle),</p>	B.Sc.(Hons) Electronics, Sem II	ELHT-604/ Engineering Mathematics
	Practical	<p>To determine Young's modulus of a wire by optical lever method.</p> <p>To determine the modulus of rigidity of a wire by Maxwell's needle.</p> <p>To determine the elastic constants of a wire by Searle's method. To measure the resistivity of a Ge crystal with temperature by four – probe method from room temperature to 200 OC).</p> <p>To determine the value of Boltzmann Constant by studying forward characteristics of diode. To determine the value of Planck's constant by using LEDs of at least 4 different wavelengths.</p> <p>To determine e/m of electron by Bar Magnet or by Magnetic Focusing.</p> <p>(Different Experiments allotted to different groups)</p> <p>To study the characteristics of DC Series motor .</p> <p>To study the characteristics of DC Shunt motor.</p> <p>To study characteristics of single phase induction motor.</p> <p>To study control of DC motor by SCR.</p> <p>To Study Stepper Motor.</p> <p>To Study Open Circuit Test on single phase transformer.</p> <p>To Study Short Circuit Test on single phase transformer.</p> <p>(Different Experiments allotted to different groups)</p> <p>To determine the specific rotation of scan sugar using polarimeter.</p>	<p>B.Sc.(Hons) Electronics, Sem II</p> <p>B.Tech Electronics, Sem VIII</p> <p>B.Sc.(Hons) Electronics,</p>	<p>Core-Course-IV/ Applied Physics Lab</p> <p>EL-803/ Electrical Technology Lab</p> <p>EL-803/ Electrical Technology Lab</p> <p>ELHP-606/ Electronics</p>

		Characteristics of LEDs and Photodetector.	Sem VI	Practical-XII Based on Paper ELHT-603
	Mid Term Test	As per the syllabus covered		
APRIL	Theory	Two Dimensional wave Equation, Rectangular Membrane. Use of Double Fourier Series, Laplacian in Polar Coordinates, Circular Membrane, use of Fourier-Bessel Series, Laplace's Equation in Cylindrical and Spherical Coordinates. Potential, Solution by Laplace Transforms,	B.Sc.(Hons) Electronics, Sem II	ELHT-604/ Engineering Mathematics
		Production of torque, Slip, Torque equation, Torque-slip characteristics, Speed control of Induction motor.	B.Tech. Electronics, Sem VIII	EL-803/ Electrical Technology
	Practical	<p>To determine Young's modulus of a wire by optical lever method.</p> <p>To determine the modulus of rigidity of a wire by Maxwell's needle.</p> <p>To determine the elastic constants of a wire by Searle's method. To measure the resistivity of a Ge crystal with temperature by four – probe method from room temperature to 200 0C).</p> <p>To determine the value of Boltzmann Constant by studying forward characteristics of diode. To determine the value of Planck's constant by using LEDs of at least 4 different wavelengths.</p> <p>To determine e/m of electron by Bar Magnet or by Magnetic Focusing.</p> <p>(Different Experiments allotted to different groups)</p> <p>To study the characteristics of DC Series motor .</p> <p>To study the characteristics of DC Shunt motor.</p> <p>To study characteristics of single phase induction motor.</p> <p>To study control of DC motor by SCR.</p> <p>To Study Stepper Motor.</p> <p>To Study Open Circuit Test on single phase transformer.</p> <p>To Study Short Circuit Test on single phase transformer.</p> <p>(Different Experiments allotted to different groups)</p> <p>Diffraction experiments using a laser. Single slit, double slit diffraction grating and circular aperture</p>	<p>B.Sc.(Hons) Electronics, Sem II</p> <p>B.Tech Electronics, Sem VIII</p> <p>B.Sc.(Hons) Electronics, Sem VI</p>	<p>Core-Course-IV/ Applied Physics Lab</p> <p>EL-803/ Electrical Technology Lab</p> <p>ELHP-606/ Electronics Practical-XII Based on Paper ELHT-603</p>

**SEMESTER WISE TEACHING PLAN (2016-2017)****EVEN SEMESTER****SRI VENKATESWARA COLLEGE****Name of the Faculty: Geeta Jayaram Sodhi****Department: Sociology****Semester: II**

Month		Topic(s)	Course	Paper Code/Name
JAN	Theory	1. Plurality of the Sociological Perspective 2. Functionalism	Core Course-03	Introduction to Sociology II
	Practical	NA	NA	NA
	Tutorial	Plurality of the Sociological Perspective with regard to Theory and Research	Core Course-03	Introduction to Sociology II
FEB	Theory	1. Interpretive Sociology 2. Interactionism	Core Course-03	Introduction to Sociology II
	Practical	NA	NA	NA
	Tutorial	Functionalist Perspective of Society	Core Course-03	Introduction to Sociology II
MARCH	Theory	1. Conflict Theory 2. Feminist Theory	Core Course-03	Introduction to Sociology II

	Practical	NA	NA	NA
	Tutorial	Interpretive Sociology	Core Course-03	Introduction to Sociology II
	<u>Assignment</u> Mid Sem Exam	Examine the Functionalist perspective of Society Topics 1 and 2	Core Course-03	Introduction to Sociology II
APRIL	Theory	1. Structuralism	Core Course-03	Introduction to Sociology II
	Practical	NA	NA	NA
	Tutorial	Feminist Perspective	Core Course-03	Introduction to Sociology II



SEMESTER WISE TEACHING PLAN (2016-2017)

EVEN SEMESTER

SRI VENKATESWARA COLLEGE

Name of the Faculty: Geeta Jayaram Sodhi

Department: Sociology

Semester: IV

Month		Topics	Course	Paper Code/Name
JAN	Theory	1. Sociological Research 2. Objectivity in Social sciences	Core Course 4	Methods of Sociological Enquiry
	Practical	NA	NA	NA
	Tutorial	What is Sociological Research ?	Core Course 4	Methods of Sociological Enquiry
FEBRUARY	Theory	1. Reflexivity 2. Comparative Method	Core Course 4	Methods of Sociological Enquiry
	Practical	NA	NA	NA
	Tutorial	Comparative Method	Core Course 4	Methods of Sociological Enquiry

MARCH	Theory	1. Ethnographic Method 2. Theory and Research	Core Course 4	Methods of Sociological Enquiry
	Practical	NA	NA	NA
	Tutorial	Ethnographic Method	Core Course 4	Methods of Sociological Enquiry
	<u>Assignment</u> <u>Mid Sem Exam</u>	What is the nature of Sociological Research? Topics 1.1 and 1.2	Core Course 4	Methods of Sociological Enquiry
APRIL	Theory	Constructing the Object of Research	Core Course 4	Methods of Sociological Enquiry
	Practical	NA	NA	NA
	Tutorial	Quantitative and Qualitative Methods in Research	Core Course 4	Methods of Sociological Enquiry



SEMESTER WISE TEACHING PLAN (2016-2017)
EVEN SEMESTER
SRI VENKATESWARA COLLEGE

Name of the Faculty: ABHIJIT KUNDU **Department:** SOCIOLOGY

Semester : VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	1. Action Theory-Parsons 2. Culture-Personality-Social	LOCF Honours VI Sem	Sociological Theories II
	Practicals			
	Tutorials	1. Talcott Parsons System Theory	do	do
FEBRUARY	Theory:	1. G.H Mead-Mind Self and Society 2. Erving Goffman-Dramaturgy, Techniques of Impression Management	do	do
	Practicals:			
	Tutorials:	1. Symbolic Interactionism 2. Self-Society Negotiation	do	do

	<u>Assignment :</u>	1. Analyse the interaction between the three subsystems in Parsonian model of Social System		
MARCH	Theory:	Critical School Theories 1. Horkheimer 2. Adorno 3. Marcuse		
	Practicals:			
	Tutorials:	1. What is the epistemological issues in Dialectics of Enlightenment		
	<u>Test</u>	1. Explain Self as a social Product. 2. What is meant by Re-sublimation in Marcuse's Theory		
APRIL	Theory:	Outline of A Theory on Practice -Bourdieu	do	do
	Practicals:			
	Tutorials:	1. What is Habitus 2. How does Bourdieu resolve the issue of Objectivism in social theory	do	do

MAY	Theory:	Semester Exam		
	Practicals:			
	Tutorials:			



SEMESTER WISE TEACHING PLAN (2016-2017)

EVEN SEMESTER

SRI VENKATESWARA COLLEGE

Name of the Faculty: Nabanipa Bhattacharjee

Department: Sociology

Semester: II (B.A.H)

Month		Topic(s)	Course	Paper Code/Name
JANUARY	Theory	Ideas of India: A Discursive Discourse; Location of Gandhi and Ambedkar in the discourse.	Core Course 03 (C03)	Sociology of India II
	Practical	NA	NA	NA
	Tutorial	Reading Ambedkar's <i>Annihilation of Caste</i> (and Gandhi's <i>Hind Swaraj</i>) to understand the thoughts of both Ambedkar and Gandhi.	Core Course 03 (C03)	Sociology of India II
FEBRUARY	Theory	Indological and ethnographic approaches to India; disciplinary history of Indian sociology; Sanskritization and mobility; Dalit movement.	Core Course 03 (C03)	Sociology of India II
	Practical	NA	NA	NA
	Tutorial	Conceptualizing Dalit identity and tracing the trajectory of Dalit movement in India.	Core Course 03 (C03)	Sociology of India II
MARCH	Theory	Mapping resistance in the contexts of women, peasant and ethnic movements in India; rise and growth of the Indian middle class.	Core Course 03 (C03)	Sociology of India II

	Practical	NA	NA	NA
	Tutorial	Discussion on ethnicity, nation and citizenship by exploration of the Assam movement.	Core Course 03 (C03)	Sociology of India II
	<u>Assignment (10 Marks)</u>	Drawing from the Gandhi-Ambedkar debate, elaborate on their ideas of India (1200-1500 words, TNR & 12 font, 1.5 space, justified)	Core Course 03 (C03)	Sociology of India II
APRIL	Theory	Communalism in India; the history & growth of secularism, nation and nationalism in India.	Core Course 03 (C03)	Sociology of India II
	Practical	NA	NA	NA
	Tutorial	Mapping the debates on secularism as an ideology; problems faced by Indian secularism particularly since independence.	Core Course 03 (C03)	Sociology of India II
	<u>Mid-Semester Examination (10 Marks)</u>	Two short essays (350 words each) to be attempted on Dalit and Women's movements in India.	Core Course 03 (C03)	Sociology of India II
MAY	Theory	Understanding the varieties of secularism in India.	Core Course 03 (C03)	Sociology of India II
	Practical	NA	NA	NA
	Tutorial	Revision of the entire syllabus depending on student feedback and demand.	Core Course 03 (C03)	Sociology of India II



SEMESTER WISE TEACHING PLAN (2016-2017)

EVEN SEMESTER

SRI VENKATESWARA COLLEGE

Name of the Faculty: Nabanipa Bhattacharjee

Department: Sociology

Semester: VI BA (Program)

Month		Topics	Course	Paper Code/Name
JANUARY	Theory		Generic Elective 02 (GE 02)	Economy and Society
	Practical		NA	NA
	Tutorial		Generic Elective 02 (GE 02)	Economy and Society
FEBRUARY	Theory		Generic Elective 02 (GE 02)	Economy and Society
	Practical	NA	NA	NA
	Tutorial		Generic Elective 02 (GE 02)	Economy and Society

MARCH	Theory		Generic Elective 02 (GE 02)	Economy and Society
	Practical	NA	NA	NA
	Tutorial		Generic Elective 02 (GE 02)	Economy and Society
	<u>Assignment (10 Marks)</u>		Generic Elective 02 (GE 02)	Economy and Society
APRIL	Theory		Generic Elective 02 (GE 02)	Economy and Society
	Practical		NA	NA
	Tutorial		Generic Elective 02 (GE 02)	Economy and Society
	<u>Mid-Semester Examination (10 Marks)</u>		Generic Elective 02 (GE 02)	Economy and Society

MAY	Theory		Generic Elective 02 (GE 02)	Economy and Society
	Practical	NA	NA	NA
	Tutorial		Generic Elective 02 (GE 02)	Economy and Society



SEMESTER WISE TEACHING PLAN (2016-17)
EVEN SEMESTER
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Padma Priyadarshini

Department: Sociology

Semester: BA (Hons.) IV Sem

Month		Topic(s)	Course	Paper Code/Name
JAN	Theory	Perspectives in Economic Sociology 1. Formalism and Substantivism 2. New Economic Sociology	Core Course-08	Economic Sociology
	Practical	NA	NA	NA
	Tutorial	Discuss the ways in which the term 'economy' has evolved over the years. (Ref: Hann and Hart, Polanyi)	Core Course-08	Economic Sociology
FEB	Theory	Forms of Exchange 1. Reciprocity and Gift 2. Exchange and Money Systems of Production 1. Hunting and Gathering 2. DMP	Core Course-08	Economic Sociology
	Practical	NA	NA	NA
	Tutorial	What is the difference between gifts and commodities? (Ref: Marcel Mauss and Carrier).	Core Course-08	Economic Sociology

	Mid Sem Exam	Topics: 1. Formalism and Substantivism 2. New Economic Sociology		Economic Sociology
MARCH	Theory	Contemporary issues in Economic Sociology 1. Development 2. Globalization	Core Course-08	Economic Sociology
	Practical	NA	NA	NA
	Tutorial	Systems of production with special reference to capitalism and Socialism	Core Course-08	Economic Sociology
	Assignment	Examine the differences between different systems of production, circulation and consumption	Core Course-08	Economic Sociology
APRIL	Theory	1. Globalization and cross-cultural consumption Ref: David Howes	Core Course-08	Economic Sociology
	Practical	NA	NA	NA
	Tutorial	Why is globalization being referred to as the latest stage of capitalism? (Ref: Wallerstein and Fran Tonkiss)	Core Course-08	Economic Sociology



SEMESTER WISE TEACHING PLAN (2016-17)
EVEN SEMESTER
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Padma Priyadarshini

Department: Sociology

Semester: BA (Hons.) II Sem

Month		Topics	Course	Paper Code/Name
JAN	Theory	What is Family? 1. Historical account 2. Sociological account 3. Anthropological 4. How just is the family? 5. Gay-Lesbian families	GE 02	Family and Intimacy
	Practical	NA	NA	NA
	Tutorial	What do we mean by the family? Has it lost its functions? How just is it? (Ref: Mitterauer, Worsley, Shapiro, Okin and Weston)	GE 02	Family and Intimacy
FEBRUARY	Theory	Family and Intimacy 6. Socialization in the Indian family 7. Gujarati family 8. Tamil Family 9. Eroticism in Rajasthani folk songs 10. The Elderly	GE 02	Family and Intimacy
	Practical	NA	NA	NA
	Tutorial	Discuss the different aspects of Indian families (Ref: Lannoy, Trawick, Raheja and Gould and Vatuk)	GE 02	Family and Intimacy
	Mid-Sem Exam	Topics: 1,2 and 3	GE 02	Family and Intimacy

MARCH	Theory	Critiques and Transformations 11. The anti-social family 12. Feminist Heterosexuality 13. History of Marriage 14. Joint family system of India	GE 02	Family and Intimacy
	Practical	NA	NA	NA
	Tutorial	Critically assess the family. (Ref: Barrett, Cartledge and Ryan, Coontz and Shah)	GE 02	Family and Intimacy
	<u>Assignment</u>	When is a marriage not a marriage? Sex, sacrament and contract in Hindu marriage. (Ref: Patricia Uberoi)	GE 02	Family and Intimacy
APRIL	Theory	15. Hindu Marriage 16. How's the family?	GE 02	Family and Intimacy
	Practical	NA	NA	NA
	Tutorial	How is the family doing today? How has this course enhanced your understanding of the family? (Ref: Uberoi and Hochschild)	GE 02	Family and Intimacy



SEMESTER WISE TEACHING PLAN (2016-2017)
EVEN SEMESTER
SRI VENKATESWARA COLLEGE

Name of the Faculty: DR. URMI BHATTACHARYYA

Department: SOCIOLOGY

Semester: II

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Plurality of Sociological Perspective; Division of labour; Structure and Function	Core Course 03	Introduction to Sociology-II
	Practical	NA	NA	NA
	Tutorial	On the Plurality of Sociological Perspective Functionalism Structural Functionalism	Core Course 03	Introduction to Sociology-II
FEBRUARY	Theory	Interpretive sociology: Max Weber's <i>Economy and Society</i>	Core Course 03	Introduction to Sociology-II
	Practical	NA	NA	NA
	Tutorial	Economy and society: an introduction to interpretive sociology	Core Course 03	Introduction to Sociology-II
	Assignment	Illustrate on how Radcliffe Brown explains the significance of structure and function in social anthropology?	Core Course 03	Introduction to Sociology-II

MARCH	Theory	Conflict Perspective: Karl Marx Ralf Dahrendorf Structuralism in social anthropology	Core Course 03	Introduction to Sociology-II
	Practical	NA	NA	NA
	Tutorial	Karl Marx -Class Struggle Ralf Dahrendorf -Class Conflict Introducing structuralism	Core Course 03	Introduction to Sociology-II
		--	Core Course 03	Introduction to Sociology-II
APRIL	Theory	Introducing : -Interactionism Feminist perspective	Core Course 03	Introduction to Sociology-II
	Practical	NA	NA	NA
	Tutorial	Social Interaction in Everyday life Understanding Gender	Core Course 03	Introduction to Sociology-II
	Mid-sem test	Write a note on social interactionism as a sociological perspective	Core Course 03	Introduction to Sociology-II

MAY	Theory	Declaration of internal evaluation results University Examinations	Core Course 03	Introduction to Sociology-II
	Practical	NA	NA	NA
	Tutorial	-	Core Course 03	Introduction to Sociology-II



SEMESTER WISE TEACHING PLAN (2016-2017)
EVEN SEMESTER
SRI VENKATESWARA COLLEGE

Name of the Faculty: DR. URMI BHATTACHARYYA

Department: SOCIOLOGY

Semester: IV

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Introducing Inequality: Beteille, A. Worsely, P Tawney, R.H. Theories of Stratification: Marx	Core Course 10	Social Stratification
	Practical	NA	NA	NA
	Tutorial	Introducing Inequality Exploring the sources of inequality	Core Course 10	Social Stratification
FEBRUARY	Theory	Theories of Stratification: -Max Weber A Comparison of Marx and Weber Functionalist perspective	Core Course 10	Social Stratification
	Practical	NA	NA	NA
	Tutorial	Comparing Marx, Weber and their ideas of Stratification Functionalism	Core Course 10	Social Stratification
	<u>Assignment</u>	How do Weber and Marx approach the concept of class?	Core Course 10	Social Stratification

MARCH	Theory	Caste hierarchy, Racial formations, Ethnicity and Stratification Gendered Stratification	Core Course 10	Social Stratification
	Practical	NA	NA	NA
	Tutorial	Closed stratification Race, Caste, color and dominance: discussing cases from India, United States of America and Central America	Core Course 10	Social Stratification
APRIL	Theory	Women and Stratification Race, Class and Gender Mobility and Reproduction	Core Course 10	Social Stratification
	Practical		NA	NA
	Tutorial	Gendered Stratification and the intersection of class, race along with gender	Core Course 10	Social Stratification
	<u>Mid-sem test</u>	How do hegemonic understandings of gender contribute towards inequality and stratification in society?	Core Course 10	Social Stratification

MAY	Theory	Declaration of internal evaluation results University Examinations	Core Course 10	Social Stratification
	Practical	NA	NA	NA
	Tutorial	-	Core Course 10	Social Stratification



SEMESTER WISE TEACHING PLAN (2016-2017)

EVEN SEMESTER

SRI VENKATESWARA COLLEGE

Name of the Faculty: DR. URMI BHATTACHARYYA

Department: SOCIOLOGY

Semester: IV

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Key Approaches in Kinship: Descent theory Alliance theory	Core Course 08	Sociology of Kinship
	Practical	NA	NA	NA
	Tutorial	Explaining kinship through the study of descent. The study of African societies by early anthropologists How did structuralists explain kinship	Core Course 08	Sociology of Kinship
FEBRUARY	Theory	Key Approaches in Kinship: Cultural theory Concepts of family, household, domestic groups and its relation to kinship	Core Course 08	Sociology of Kinship
	Practical	NA	NA	NA
	Tutorial	Reconceptualization of kinship and its meaning	Core Course 08	Sociology of Kinship
	<u>Assignment</u>	Write a note on the structural principles underlying African kinship systems	Core Course 08	Sociology of Kinship

MARCH	Theory	The anthropological definition of marriage Contemporary meaning of kinship – as relatedness	Core Course 08	Sociology of Kinship
	Practical	NA	NA	NA
	Tutorial	Discussion on marriage laws Relatedness Interconnections of gender and kinship .	Core Course 08	Sociology of Kinship
APRIL	Theory	Gender and kinship Redefining kinship: Cultural construction of kinship Reconstructing families Questioning biological paternity/maternity with IVF	Core Course 08	Sociology of Kinship
	Practical	NA	NA	NA
	Tutorial	Chosen families New reproductive technologies and the construction of identity	Core Course 08	Sociology of Kinship
	<u>Mid-sem test</u>	How are elements of biology and culture synthesized and reflected in kinship? Provide illustrations	Core Course 08	Sociology of Kinship

MAY	Theory	Declaration of internal evaluation results University Examinations	Core Course 08	Sociology of Kinship
	Practical	NA	NA	NA
	Tutorial	-	Core Course 08	Sociology of Kinship



SEMESTER WISE TEACHING PLAN (2016-2017)
EVEN SEMESTER
SRI VENKATESWARA COLLEGE

Name of the Faculty: Antasa Vairagya

Department: Sociology

Semester: IV BA (Hons)

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	The Gendered Society; Anthropology at the Front Lines of Gender-Based Violence	Generic Elective04	Gender and Violence
	Practical	NA	NA	NA
	Tutorial	NA	NA	NA
FEBRUARY	Theory	Caste and Gender; Dalit Women Speak Out; Domestic Violence	Generic Elective 04	Gender and Violence
	Practical	NA	NA	NA
	Tutorial	What is gendered violence	Generic Elective 04	Gender and Violence

MARCH	Theory	Enforcing Cultural Codes; Variation in Sexual Violence During War; Sexual Harassment at Workplace; Rape and Sexual Assaults on Women; Rewards of Rape; Recovering Subversions	Generic Elective 04	Gender and Violence
	Practical	NA	NA	NA
	Tutorial	NA	NA	NA
	<u>Assignment</u>	On Flavia Agnes, My Story, Our Story: Building Broken Lives	Generic Elective 04	Gender and Violence
APRIL	Theory	The other side of silence; Only words; Violence Against Women; This thing Called Justice	Generic Elective 04	Gender and Violence
	Practical	NA	NA	NA
	Test	Enforcing Cultural Codes	Generic Elective 04	Gender and Violence



SEMESTER WISE TEACHING PLAN (2016-2017)

EVEN SEMESTER

SRI VENKATESWARA COLLEGE

Name of the Faculty: Antasa Vairagya

Department: Sociology

Semester: IV BA (P)

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Sex, Gender and Sexuality	SEC	Gender Sensitization
	Practical	NA	NA	NA
	Tutorial	NA	NA	NA
FEBRUARY	Theory	Gender Rights and Law	SEC	Gender Sensitization
	Practical	NA	NA	NA
	Tutorial	What is the difference between gender and sex	SEC	Gender Sensitization

MARCH	Theory	Gender, Family, Community and the State	SEC	Gender Sensitization
	Practical	NA	NA	NA
	Tutorial	NA	NA	NA
	<u>Assignment</u>	On Sex, Gender and Sexuality	SEC	Gender Sensitization
APRIL	Theory	Intersections of Caste, Class, Religion, Region and Disability	SEC	Gender Sensitization
	Practical	NA	NA	NA
	Test	Domestic Violence	SEC	Gender Sensitization



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Academic Planner: Even Semester 2016 (January - April)

Name of the Faculty: Ms. Ramaa Sinha
Department: Zoology
Semester: VI

Month		Topics	Course	Paper Code/Name
January	Theory	Unit 1. Human Diseases Epidemiology of infectious diseases, transmission, prevention and control of diseases: Tuberculosis, Amoebiasis, Dengue, Malaria, and Swine flu. Brief account of <i>Rickettsia</i> , <i>Borellia</i> , <i>Treponema</i> and <i>Leptospira</i>	B.Sc. (Hons) Zoology, Semester-VI	Paper 23a-: Applied Zoology
		Life history and pathogenicity of <i>Faciolopsis buski</i> , <i>Schistosoma</i> , <i>Ancylostoma duodenale</i> and <i>Wuchereria bancrofti</i>		
	Practical	Histopathology of Liver Cirrhosis, Alcoholic cirrhosis, Biliary cirrhosis, Haemochromatosis and Wilson's disease		
		Unit 1. Introduction Lamarckism, Darwinism, Neo-Darwinism	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
		Syllabus overview, general instructions and maintenance of lab record	B.Sc. (Hons) Zoology, Semester-VI	Paper 23a-: Applied Zoology
		DEVELOPMENTAL BIOLOGY Study of whole mounts and sections of developmental stages of frog through permanent slides: Cleavage stages, blastula, gastrula, neurula, tail-bud stage, tadpole (external and internal gill stages)	B.Sc. Life sciences sem II (TLS)	LSPT 614
February	Theory	Unit 2. Reproductive health & human welfare Implantation and placental physiology in pregnancy; placental secretions and their regulation; Parturition; Lactation; Health and Diseases during pregnancy Infertility in male and female: cause, diagnosis and management Assisted Reproductive Technology, Sex	B.Sc. (Hons) Zoology, Semester-VI	Paper 23a-: Applied Zoology

		selection, sperm banks, frozen embryos, in vitro fertilization, ET, IFT, IUT, ZIFT, GIFT, ICSI, PROST Modern contraceptive technologies ; Demographic terminology used in family planning		
		Unit 4. Process of evolutionary change Organic variations Population genetics	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
	Practical	Economic importance of the following insect pests based on identification of their adult: <i>Earias vittella</i> , <i>Heliothis armigera</i> , <i>Papilio demoleus</i> , <i>Sitophilus oryzae</i> , <i>Trogoderma granarium</i> , <i>Callosobruchus chinensis</i> . Preparation of life cycles of these insect pests	B.Sc. (Hons) Zoology, Semester-VI	Paper 23a-: Applied Zoology
		DEVELOPMENTAL BIOLOGY Study of whole mounts of developmental stages of chick through permanent slides: Primitive streak (13 and 18 hours), 21, 24, 28, 33, 36, 48, 72, and 96 hours of incubation (Hamilton and Hamburger stages)	B.Sc. Life sciences sem II (TLS)	LSPT 614
March	Theory	Unit 3. Animal Husbandry Semen collection, Preservation and artificial insemination in cattle Induction of early puberty and synchronization of estrus in cattle	B.Sc. (Hons) Zoology, Semester-VI	Paper 23a-: Applied Zoology
		Unit 4. Process of evolutionary change Natural selection	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
	Practical	Study of damage caused by commonly occurring insect pests Study of beneficial insects, their life stages and products	B.Sc. (Hons) Zoology, Semester-VI	Paper 23a-: Applied Zoology
		DEVELOPMENTAL BIOLOGY Study of the developmental stages and life cycle of <i>Drosophila</i> from stock culture	B.Sc. Life sciences sem II (TLS)	LSPT 614
APRIL	Theory	Unit 5. Fish Technology Zebrafish as a model for biotechnology. Genetic improvements in aquaculture industry Induced breeding and transportation of fish seed Revision	B.Sc. (Hons) Zoology, Semester-VI	Paper 23a-: Applied Zoology
		Revision	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
	Practical	Revision exercises and test, viva for practical	B.Sc. (Hons)	Paper 23a-:

exams	Zoology, Semester-VI	Applied Zoology
DEVELOPMENTAL BIOLOGY Study of different sections of placenta (photomicrograph/ slides) Submission of project report on <i>Drosophila</i> culture/chick embryo development • Revision/ mock exam	B.Sc. Life sciences sem II (TLS)	LSPT 614



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
2016-17 Even Semester (January-April)

Name of the Faculty: Dr. VVS Narayana Rao

Department: Zoology

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory:	Cell culture media (natural and defined), Preparation and sterilization, Primary cell culture, Cell lines, Pluripotent stem cells, Cryopreservation of cultures.	B.Sc. (H) Zoology Semester-VI	Paper 22 ZOHT 611 Biotechnology
		Mendel's work on transmission of traits, Genetic variation, Molecular basis of genetic information, Principles of inheritance, Chromosome theory of inheritance, Incomplete dominance and co-dominance, Multiple alleles, Lethal alleles, Epistasis, Pleiotropy, sex linked inheritance, extra-chromosomal inheritance, Linkage and crossing over	B.Sc. (P) Life Sciences Semester- IV	CC- IV Genetics and Evolutionary Biology
	Practicals:	<ul style="list-style-type: none"> • Instructions to students • Genomic DNA isolation from <i>E.coli</i> (without plasmid) 	B.Sc. (H) Zoology Semester-VI	Paper 24 GGHT 602 Genetics & Genomics -II
		<ul style="list-style-type: none"> • Study of placoid, cycloid and ctenoid scales through permanent slides/photographs • Disarticulated skeleton of Frog • Disarticulated skeleton of <i>Varanus</i> 	B.Sc. (H) Zoology Semester-IV	Core Course VIII Comparative Anatomy of Vertebrates
		<ul style="list-style-type: none"> • Study of Human Karyotypes (normal and abnormal) • Study of Mendelian Inheritance and gene interactions (Non Mendelian Inheritance) using suitable examples. Verify the results using Chi-square test 	B.Sc. (P) Life Sciences Semester- IV	CC- IV Genetics and Evolutionary Biology

FEBRUARY	Theory:	Production of transgenic animals-nuclear transplantaion, Retroviral method, DNA microinjection method, Applications of transgenic mice, sheep, goat, pig, birds and fish, Dolly and Polly, Scientific significance, Therapeutic applications, Human cloning, Ethical issues of transgenic animals	B.Sc. (H) Zoology Semester-VI	Paper 22 ZOHT 611 Biotechnology
		Recombination frequency as a measure of linkage intensity, two factor and three factor crosses, Interference and coincidence, Somatic cell genetics-an alternative approach to gene mapping, Chromosomal mutations: Deletion, Duplication, Inversion, Translocation, Aneuploidy and Polyploidy, Gene mutations: Induced versus spontaneous mutations, Back versus suppressor mutations	B.Sc. (P) Life Sciences Semester- IV	CC- IV Genetics and Evolutionary Biology
	Practicals:	<ul style="list-style-type: none"> Restriction enzyme digestion of genomic DNA from <i>E.coli</i> Isolation of plasmid DNA and genomic DNA together from <i>E.coli</i>. and restriction enzyme digestion 	B.Sc. (H) Zoology Semester-VI	Paper 24 GGHT 602 Genetics & Genomics -II
		<ul style="list-style-type: none"> Disarticulated skeleton of Fowl Disarticulated skeleton of Rabbit Carapace and plastron of turtle 	B.Sc. (H) Zoology Semester-IV	Core Course VIII Comparative Anatomy of Vertebrates
	<ul style="list-style-type: none"> Study of homology and analogy from suitable specimens/ picture. Study of fossil evidences from plaster cast models and pictures Phylogeny of horse with diagrams/ cut outs of limbs and teeth of horse ancestors 	B.Sc. (P) Life Sciences Semester- IV	CC- IV Genetics and Evolutionary Biology	

MARCH	Theory:	Production of transgenic plants: <i>Agrobacterium</i> mediated transformation, Microprojectile method of gene transfer, nuclear transplantation, Examples of transgenic plants (insecticide, herbicide and virus resistant plants).	B.Sc. (H) Zoology Semester-VI	Paper 22 ZOHT 611 Biotechnology
		Chromosomal mechanisms, Dosage compensation, Major events in history of life, Lamarckism, Darwinism, Neo-Darwinism, Organic variations, isolating mechanisms	B.Sc. (P) Life Sciences Semester- IV	CC- IV Genetics and Evolutionary Biology
	Practicals:	<ul style="list-style-type: none"> Restriction enzyme digestion (<i>Eco RI</i>) of genomic and plasmid DNA (obtained from previous experiment) Estimation of size of a DNA fragment after electrophoresis using DNA markers Construction of Restriction digestion maps from data provided 	B.Sc. (H) Zoology Semester-VI	Paper 24 GGHT 602 Genetics & Genomics - II
		<ul style="list-style-type: none"> Study of mammalian skulls: One herbivorous and one carnivorous animal Dissection of rat to study arterial and urinogenital system(as per animal ethics committee guidelines) Study of heart and kidney organs of Rat 	B.Sc. (H) Zoology Semester-IV	Core Course VIII Comparative Anatomy of Vertebrates
		<ul style="list-style-type: none"> Darwin's Finches with diagrams/ cut outs of beaks of different species Study of Linkage, recombination, gene mapping using the data 	B.Sc. (P) Life Sciences Semester- IV	CC- IV Genetics and Evolutionary Biology
		MID-TERM TEST		

APRIL	Theory:	Intellectual property rights, Biosafety levels and guidelines	B.Sc. (H) Zoology Semester-VI	Paper 22 ZOHT 611 Biotechnology
		Natural selection (Example: Industrial melanism), Types of natural selection (Directional, Stabilizing, Disruptive), Artificial selection	B.Sc. (P) Life Sciences Semester- IV	CC- IV Genetics and Evolutionary Biology
	Practicals:	<ul style="list-style-type: none"> Demonstration of DNA fingerprinting Revision and mock practical test 	B.Sc. (H) Zoology Semester-VI	Paper 24 GGHT 602 Genetics & Genomics - II
		<ul style="list-style-type: none"> Revision and mock practical test 	B.Sc. (H) Zoology Semester-IV	Core Course VIII Comparative Anatomy of Vertebrates
		<ul style="list-style-type: none"> Revision and mock practical test 	B.Sc. (P) Life Sciences Semester- IV	CC- IV Genetics and Evolutionary Biology



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
2016-17 Even Semester (January-April)

Name of the Faculty: Dr. P. S. Dhanaraj

Department: Zoology

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory:	Unit 2: Plasma Membrane: Various models of plasma membrane structure.	B.Sc. (H) Zoology Semester-II	Core Course IV Cell Biology
		Unit 3. Molecular Techniques in Gene manipulation: Introduction to the concept of Recombinant DNA Technology, Cloning vectors, Restriction and modifying enzymes.	B.Sc. LifeSciences Semester-VI	LSPT 613 Applied Biology and Biotechnology
		Overview of axial and appendicular skeleton.	B.Sc. (H) Zoology Semester-II	Core Course VIII Comparative Anatomy of Vertebrates
	Practicals:	<ul style="list-style-type: none"> • Instructions to students • Genomic DNA isolation from <i>E.coli</i> (without plasmid) 	B.Sc. (H) Zoology Semester-VI	Paper 24 GGHT 602 Genetics & Genomics -II
		<ul style="list-style-type: none"> • Study of placoid, cycloid and ctenoid scales through permanent slides/photographs • Disarticulated skeleton of Frog • Disarticulated skeleton of <i>Varanus</i> 	B.Sc. (H) Zoology Semester-IV	Core Course VIII Comparative Anatomy of Vertebrates
		<ul style="list-style-type: none"> • Preparation of temporary stained squash of onion root tip to study various stages of mitosis. 	B.Sc. (H) Zoology Semester-II	Core Course IV Cell Biology
FEBRUARY	Theory:	Unit 2: Plasma Membrane: Transport across membranes: Active and Passive transport, Facilitated transport Cell junctions: Tight junctions, Desmosomes, Gap junctions.	B.Sc. (H) Zoology Semester-II	Core Course IV Cell Biology
		Unit 3. Molecular Techniques in Gene manipulation: Transformation techniques (microbial, plants and animals), Construction and screening of DNA libraries.	B.Sc. LifeSciences Semester-VI	LSPT 613 Applied Biology and Biotechnology

		Jaw suspensorium, Visceral arches.	B.Sc. (H) Zoology Semester-II	Core Course VIII Comparative Anatomy of Vertebrates
	Practicals:	<ul style="list-style-type: none"> Restriction enzyme digestion of genomic DNA from <i>E.coli</i> Isolation of plasmid DNA and genomic DNA together from <i>E.coli</i>. and restriction enzyme digestion 	B.Sc. (H) Zoology Semester-VI	Paper 24 GGHT 602 Genetics & Genomics -II
		<ul style="list-style-type: none"> Disarticulated skeleton of Fowl Disarticulated skeleton of Rabbit Carapace and plastron of turtle 	B.Sc. (H) Zoology Semester-IV	Core Course VIII Comparative Anatomy of Vertebrates
		<ul style="list-style-type: none"> Study of various stages of meiosis. Preparation of permanent slide to show the presence of Barr body in human female blood cells/cheek cells. 	B.Sc. (H) Zoology Semester-II	Core Course IV Cell Biology

MARCH	Theory:	Unit 3: Endomembrane System: Structure and Functions: Endoplasmic Reticulum.	B.Sc. (H) Zoology Semester-II	Core Course IV Cell Biology
		Unit 3. Molecular Techniques in Gene manipulation: Agarose and Polyacrylamide Gel Electrophoresis, Molecular analysis of DNA, RNA and Proteins (i.e. Southern, Northern and Western blotting).	B.Sc. LifeSciences Semester-VI	LSPT 613 Applied Biology and Biotechnology
		Succession of kidney, Evolution of urinogenital ducts, Types of mammalian uteri.	B.Sc. (H) Zoology Semester-II	Core Course VIII Comparative Anatomy of Vertebrates
	Practicals:	<ul style="list-style-type: none"> Restriction enzyme digestion (<i>Eco RI</i>) of genomic and plasmid DNA (obtained from previous experiment) Estimation of size of a DNA fragment after electrophoresis using DNA markers Construction of Restriction digestion maps from data provided 	B.Sc. (H) Zoology Semester-VI	Paper 24 GGHT 602 Genetics & Genomics -II
		<ul style="list-style-type: none"> Study of mammalian skulls: One herbivorous and one carnivorous animal Dissection of rat to study arterial and urinogenital system(as per animal ethics committee guidelines) Study of heart and kidney organs of Rat 	B.Sc. (H) Zoology Semester-IV	Core Course VIII Comparative Anatomy of Vertebrates

		<ul style="list-style-type: none"> Preparation of permanent slide to demonstrate: i DNA by Feulgen reaction ii DNA and RNA by MGP iii Mucopolysaccharides by PAS reaction iv Proteins by Mercurobromophenol blue/Fast Green 	B.Sc. (H) Zoology Semester-II	Core Course IV Cell Biology
		MID-TERM TEST		

APRIL	Theory:	Unit 3: Endomembrane System: Golgi Apparatus, Lysosomes Revision.	B.Sc. (H) Zoology Semester-II	Core Course IV Cell Biology
		Unit 3. Molecular Techniques in Gene manipulation: DNA sequencing (Maxam Gilbert and Sanger methods), Polymerase chain reaction and DNA microarrays.	B.Sc. LifeSciences Semester-VI	LSPT 613 Applied Biology and Biotechnology
		Revision and Test.	B.Sc. (H) Zoology Semester-II	Core Course VIII Comparative Anatomy of Vertebrates
	Practicals:	<ul style="list-style-type: none"> Demonstration of DNA fingerprinting Revision and mock practical test 	B.Sc. (H) Zoology Semester-VI	Paper 24 GGHT 602 Genetics & Genomics -II
		<ul style="list-style-type: none"> Revision and mock practical test 	B.Sc. (H) Zoology Semester-IV	Core Course VIII Comparative Anatomy of Vertebrates
		<ul style="list-style-type: none"> Revision and mock practical test 	B.Sc. (H) Zoology Semester-II	Core Course IV Cell Biology



SEMESTER WISE TEACHING PLAN (2016-2017)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Anita Verma

Department: Zoology

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Syllabus overview. Scope of studying the course. Unit 1 Movements and Bulk Transport: Introduction to musculo skeletal system; Terrestrial, aquatic and aerial locomotion; Locomotory cost; General plan and physiology of circulatory system in vertebrates and invertebrates	B.Sc. (Hons) Biological Science, Semester-IV	Systems Physiology (BS C-8)
		Syllabus overview. Scope of studying the course.	B.Sc. (Hons) Zoology, Semester- VI	Paper 23a:- Applied Zoology
	Practicals	Syllabus overview, general instructions and maintenance of lab record. Effect of isotonic hypotonic hypertonic salines on erythrocytes.	B.Sc. (Hons) Biological Science, Semester-IV	Systems Physiology (BS C-8)
		Estimation of haemoglobin using Sahli's haemoglobinometer. Enumeration of white blood cells using haemocytometer. Enumeration of red blood cells using haemocytometer.	B.Sc. (Hons) Zoology, Semester- IV	Animal Physiology: Life Sustaining Systems (CC IX)
		Syllabus overview, general instructions and maintenance of lab record.	B.Sc. (Hons) Zoology, Semester- VI	Paper 23a:- Applied Zoology

FEBRUARY	Theory:	<p>Unit 2 Gas exchange in organism; Generation and utilization of energy: Respiratory organs in aquatic and terrestrial systems; Physiology of aquatic breathing and aerial breathing; Feeding patterns, digestive tract systems; Digestion of food.</p> <p>Unit 4. Applied Entomology: Bionomics and control of crop pests: <i>Earias vittella</i>, <i>Pectinophora gossypiella</i>, <i>Heliothis armigera</i>. Bionomics of the following stored grain pests and their management for control: <i>Trogoderma granarium</i>, <i>Callosobruchus chinensis</i>.</p>	<p>B.Sc. (Hons) Biological Science, Semester-IV</p> <p>B.Sc. (Hons) Zoology, Semester-VI</p>	<p>Systems Physiology (BS C-8)</p> <p>Paper 23a-: Applied Zoology</p>
	Practicals:	<p>Enumeration of RBC using haemocytometer. Continuous evaluation based on performance and record maintenance.</p> <p>Enumeration of white blood cells using haemocytometer (repeat). Enumeration of red blood cells using haemocytometer (repeat). Preparation of haemin and haemochromogen crystals. Examination of sections of mammalian oesophagus, stomach, duodenum, ileum, rectum, liver, trachea, lung, kidney.</p> <p>Economic importance of the following insect pests based on identification of their adult: <i>Earias vittella</i>, <i>Heliothis armigera</i>, <i>Papilio demoleus</i>, <i>Sitophilus oryzae</i>, <i>Trogoderma granarium</i>, <i>Callosobruchus chinensis</i>. Preparation of life cycles of these insect pests.</p>	<p>B.Sc. (Hons) Biological Science, Semester-IV</p> <p>B.Sc. (Hons) Zoology, Semester-IV</p> <p>B.Sc. (Hons) Zoology, Semester-VI</p>	<p>Systems Physiology (BS C-8)</p> <p>Animal Physiology: Life Sustaining Systems (CC IX)</p> <p>Paper 23a-: Applied Zoology</p>

MARCH	Theory:	<p>Unit 3 Regulatory Physiology: Regulation of water and solutes in aquatic and terrestrial animals; Osmoregulatory organs. Excretion of nitrogenous wastes in animals; Patterns of Thermoregulation: Ectotherms and Endotherms.</p> <p>Unit 4. Applied Entomology: Outlines of apiculture, sericulture with emphasis on <i>Bombyx mori</i>; Lac culture. Insect control: Mechanical, physical, cultural.</p>	B.Sc. (Hons) Biological Science, Semester-IV	Systems Physiology (BS C-8)
	Practicals:	<p>Enumeration of total count of WBC using haemocytometer.</p> <p>Study of lung volumes and capacities by spirometer. Recording of blood pressure using a sphygmomanometer</p> <p>Study of damage caused by commonly occurring insect pests. Study of beneficial insects, their life stages and products.</p>	<p>B.Sc. (Hons) Biological Science, Semester-IV</p> <p>B.Sc. (Hons) Zoology, Semester-IV</p> <p>B.Sc. (Hons) Zoology, Semester-VI</p>	<p>Systems Physiology (BS C-8)</p> <p>Animal Physiology: Life Sustaining Systems (CC IX)</p> <p>Paper 23a-: Applied Zoology</p>
	<u>Test</u>	<p>Mid-term Test:Test questions in DU exam pattern of covered topics.</p> <p>Mid-term Test:Test questions in DU exam pattern of covered topics.</p>	<p>B.Sc. (Hons) Biological Science, Semester-IV</p> <p>B.Sc. (Hons) Zoology, Semester-VI</p>	<p>Systems Physiology (BS C-8)</p> <p>Paper 23a-: Applied Zoology</p>

APRIL	Theory:	<p>Unit 4 Integrative Physiology: An overview of neuronal structure and function; Sensory physiology -mechano, chemo, thermo, photo and electro receptors; Endocrine systems in animals and their physiological effects; Plant hormones and their physiological effects.</p> <p>Unit 4. Applied Entomology: Classification of insect control with reference to chlorinated hydrocarbons, organophosphates, carbamates and synthetic pyrethroid. General aspects of Integrated Pest Management (IPM).</p>	<p>B.Sc. (Hons) Biological Science, Semester-IV</p> <p>B.Sc. (Hons) Zoology, Semester-VI</p>	<p>Systems Physiology (BS C-8)</p> <p>Paper 23a-: Applied Zoology</p>
	Practicals:	<p>Revision exercises and test, viva for practical exams.</p> <p>Revision and mock test.</p> <p>Revision exercises and test, viva for practical exams.</p>	<p>B.Sc. (Hons) Biological Science, Semester-IV</p> <p>B.Sc. (Hons) Zoology, Semester-IV</p> <p>B.Sc. (Hons) Zoology, Semester-VI</p>	<p>Systems Physiology (BS C-8)</p> <p>Animal Physiology: Life Sustaining Systems (CC IX)</p> <p>Paper 23a-: Applied Zoology</p>



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
January-May, 2016-17 (EVEN)

Name of the Faculty: Dr. Vartika Mathur

Department: Zoology

Semester: II, IV, VI (Even) : Theory & Practical:

B. Sc. (H) Zoology Sem II Paper 5-ZOHT 202: Biodiversity Chordata (I),

B.Sc. (H) Sem IV SZH Research Methodology

B. Sc. (H) Zoology Sem VI, Paper 23c- BTHT 509 Environmental Management

Month		Topics	Course	Paper Code/Name
January	Theory:	Pisces <ul style="list-style-type: none"> Classification of Placodermi upto subclasses, Chondrichthyes upto suborders and Osteichthyes upto orders. Osmoregulation, Migration and Parental care. 	B. Sc. (H) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity Chordata (I)
		Research Methodology (SEC) <ul style="list-style-type: none"> Theory and Usage of various search engines such as Pubmed, Google scholar, Scopus, Web of Science 	B.Sc. (H) Sem IV SZH	Research Methodology (SEC)
		Introduction: <ul style="list-style-type: none"> Man as a biological species in the ecosystem; population increase; carrying capacity, exploitation of resources due to activities like agriculture, horticulture, urbanization and industrialization. Public awareness of Environment issues Role of Government, NGO's, International organizations, treaties and conventions. Environmental movements. 	B. Sc. (H) Zoology Sem VI TZH	Paper 23c- BTHT 509 Environmental Management
	Practicals: (4+4+4=12)	Protochordata: <ul style="list-style-type: none"> Study of <i>Balanoglossus</i>, <i>Herdmania</i>, <i>Branchiostoma</i>, <i>Ciona</i>, <i>Salpa</i>, <i>Doliolum</i>. <u><i>Balanoglossus</i> sections through Probosis, Collar, branchiogenital & hepatic region. <i>Amphioxus</i>- oral hood, Whole Mount sections through pharyngeal, intestinal & caudal regions.</u> Amphibia: <ul style="list-style-type: none"> Study of <i>Uraeotyphlus</i>, <i>Necturus</i>, <i>Salamander</i>, <i>Bufo</i>, <i>Hyla</i>, <i>Rhacophorus</i>. 	B. Sc. (H) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity Chordata (I)

		Research Methodology (SEC) <ul style="list-style-type: none"> Theory and Usage of various search engines such as Pubmed, Google scholar, Scopus, Web of Science 	B.Sc. (H) Sem IV SZH	Research Methodology (SEC)
		Presentations on the project report based on the practical work on any topic mentioned in the theory paper	B. Sc. (H) Zoology Sem VI TZH	Paper 23c- BTHT 509 Environmental Management
February	Theory:	Amphibia <ul style="list-style-type: none"> Classification upto orders. Origin and evolution of terrestrial ectotherms, Parental care Integument Structure and derivatives of integument. 	B. Sc. (H) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity Chordata (I)
		Research Methodology (SEC) <ul style="list-style-type: none"> Types of Reference Styles, Learning usage of Endnote, Exercises related to Plagiarism 	B.Sc. (H) Sem IV SZH	Research Methodology (SEC)
		Natural resources <ul style="list-style-type: none"> Land, Water, Air, Bioresources and biodiversity. Effect of human activities <ul style="list-style-type: none"> Depletion of resources; Generation of waste; types (agricultural, municipal, industrial); Management of wastes and disposal (emphasis on concepts of reduce, reuse and recycle); Pollution of air, water, soil, noise, and due to radioactive substances; Causes and methods of prevention and control; Eutrophication; Bioremediation; Depletion of forests; Threats to biodiversity, Extinction of species. 	B. Sc. (H) Zoology Sem VI TZH	Paper 23c- BTHT 509 Environmental Management
	Practicals: (4+4+4=12)	Fishes: <ul style="list-style-type: none"> <u>Study of <i>Petromyzon</i>, <i>Scoliodon</i>, <i>Sphyrna</i>, <i>Pristis</i>, <i>Trygon</i>, <i>Torpedo</i>, <i>Chimaera</i>, <i>Notopterus</i>, <i>Labeo</i>, <i>Catla</i>, <i>Cirrihina</i>, <i>Heteropneustes</i>, <i>Mystus</i>, <i>Exocoetus</i>.</u> <u>Dissections: Afferent branchial system, V, VII, IX and Xth Cranial nerves of <i>Scoliodon</i>. Weberian ossicles of <i>Mystus</i>. Temporary unstained preparation of Placoid, Cycloid and Ctenoid scales.</u> 	B. Sc. (H) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity Chordata (I)
		Research Methodology (SEC) <ul style="list-style-type: none"> Types of Reference Styles, Learning usage of Endnote, Exercises related to Plagiarism 	B.Sc. (H) Sem IV SZH	Research Methodology (SEC)
		Presentations on the project report based on the practical work on any topic mentioned in the theory paper	B. Sc. (H) Zoology Sem VI TZH	Paper 23c- BTHT 509 Environmental Management

March	Theory:	Reptiles <ul style="list-style-type: none"> Classification upto orders. Origin, Poisonous and non-poisonous snakes in India, Biting mechanism in snakes, Affinities of <i>Sphenodon</i>. Digestive System Alimentary canal and associated glands. 	B. Sc. (H) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity Chordata (I)
		Research Methodology (SEC) <ul style="list-style-type: none"> Hypothesis building, Role of statistics, Types of graphs and its importance in Data presentation 	B.Sc. (H) Sem IV SZH	Research Methodology (SEC)
		Sustainable Development <ul style="list-style-type: none"> Definition; Brundlandt Report; Threats to sustainable development, green technologies, eco-cities, Ecological footprint, National Environmental Policy. Energy <ul style="list-style-type: none"> Conventional Fuel – wood, fossil fuels; Non-conventional or alternate sources - sun, wind, bio-energy, geothermal, ocean, hydrogen, nuclear. 	B. Sc. (H) Zoology Sem VI TZH	Paper 23c- BTHT 509 Environmental Management
	Practicals (4+4+4=12)	<ul style="list-style-type: none"> Reptiles: Study of <i>Chelone, Testuda, Kachuga, Hemidactylus, Varanus, Uromastix, Ophiosaurus, Chameoleon, Draco, Hydrophis, Bungarus, Viper, Krait</i>, Coral snakes, Crocodiles. Aves: Study of dozen Birds of Delhi Temporary mount of pecten 	B. Sc. (H) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity Chordata (I)
		Research Methodology (SEC) <ul style="list-style-type: none"> Hypothesis building, Role of statistics, Types of graphs and its importance in Data presentation 	B.Sc. (H) Sem IV SZH	Research Methodology (SEC)
		Presentations on the project report based on the practical work on any topic mentioned in the theory paper	B. Sc. (H) Zoology Sem VI TZH	Paper 23c- BTHT 509 Environmental Management
	Assignment	<ul style="list-style-type: none"> Assignment related to various topics from syllabus 	B. Sc. (H) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity Chordata (I)
		<ul style="list-style-type: none"> Assignment related to various topics from syllabus 	B.Sc. (H) Sem IV SZH	Research Methodology (SEC)
		<ul style="list-style-type: none"> Assignment related to various topics from syllabus 	B. Sc. (H) Zoology Sem VI TZH	Paper 23c- BTHT 509 Environmental Management
April	Mid Term Test	Test questions of covered topics	B. Sc. (H) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity Chordata (I)
		Test questions of covered topics	B.Sc. (H) Sem IV SZH	Research Methodology (SEC)

		Test questions of covered topics	B. Sc. (H) Zoology Sem VI TZH	Paper 23c- BTHT 509 Environmental Management
April	Theory:	Aves <ul style="list-style-type: none"> • Classification upto orders. Origin, • Flight adaptations, Mechanism of flight and Migration. 	B. Sc. (H) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity Chordata (I)
		Research Methodology (SEC) <ul style="list-style-type: none"> • Hypothesis building, Role of statistics, Types of graphs and its importance in Data presentation 	B.Sc. (H) Sem IV SZH	Research Methodology (SEC)
		Environmental impact assessment <ul style="list-style-type: none"> • Concept, aim and steps. 	B. Sc. (H) Zoology Sem VI TZH	Paper 23c- BTHT 509 Environmental Management
	Practicals:	Mammals <ul style="list-style-type: none"> • Study of: <i>Sorex, Shrew, Hedgehog, Bat</i> (Insectivorous & frugivorous). • Revision 	B. Sc. (H) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity Chordata (I)
		<ul style="list-style-type: none"> • Revision 	B.Sc. (H) Sem IV SZH	Research Methodology (SEC)
		Presentations on the project report based on the practical work on any topic mentioned in the theory paper Revision	B. Sc. (H) Zoology Sem VI TZH	Paper 23c- BTHT 509 Environmental Management



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Academic Planner: Even Semester 2017 (Jan-April)

Name of the Faculty: Dr. Om Prakash

Department: Zoology

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
January	Theory	Cell Biology Prokaryotic and Eukaryotic cells, Virus, Viroids, Mycoplasma, Prions	B.Sc. (Hons.) Zoology Sem II TZH	CC IV
		Biotechnology Southern blotting	B.Sc. (Hons.) Zoology Sem VI TZH	DSE I
	Practical	Cell Biology Preparation of temporary stained squash of onion root tip to study various stages of mitosis Repeat Preparation of temporary stained squash of onion root tip to study various stages of mitosis	B.Sc. (Hons.) Zoology Sem II TZH	CC IV
		Immunology To perform Ouchterlony double immunodiffusion assay. ABO blood group determination.	B.Sc Life Sciences Sem VI (Two batches)	DSE Zoology 4
February	Theory	Cell Biology Unit 5: Cytoskeleton Structure and Functions: Microtubules, Microfilaments and Intermediate filaments	B.Sc. (Hons.) Zoology Sem II TZH	CC IV
		Biotechnology Northern blotting Western blotting	B.Sc. (Hons.) Zoology Sem VI TZH	DSE I
	Practicals:	Cell Biology Study of various stages of meiosis. Preparation of permanent slide to show the presence of Barr body in human female blood cells/cheek cells.	B.Sc. (Hons.) Zoology Sem II TZH	CC IV
		Immunology Cell counting and viability of splenocytes. ELISA Immunoelectrophoresis	B.Sc Life Sciences Sem VI (Two batches)	DSE Zoology 4
March	Theory	Cell Biology Unit 7: Cell Division 8 Mitosis, Meiosis, Cell cycle and its regulation Unit 8: Cell Signaling 4 GPCR and Role of second messenger (cAMP)	B.Sc. (Hons.) Zoology Sem II TZH	CC IV

		Biotechnology Polymerase Chain Reaction	B.Sc. (Hons.) Zoology Sem VI TZH	DSE I
	Practical	Cell Biology Preparation of permanent slide to demonstrate: i DNA by Feulgen reaction ii Mucopolysaccharides by PAS reaction	B.Sc. (Hons.) Zoology Sem II TZH	CC IV
		Study of lymphoid organs: spleen, thymus, lymph nodes. Preparation of stained blood film.	B.Sc Life Sciences Sem VI (Two batches)	Immunology
	Mid Term Test	Test of Cell Biology From all units taught	B.Sc. Hons Zoology Sem II	CC IV
		Test of Animal Biotechnology From all units taught	B.Sc. Hons Zoology Sem VI	DSE I
APRIL	Theory:	Cell Biology Unit 6: Nucleus Structure of Nucleus: Nuclear envelope, Nuclear pore complex, Nucleolus Chromatin: Euchromatin and Hetrochromatin and packaging (nucleosome) Unit 4: Mitochondria and Peroxisomes Mitochondria: Structure, Semi-autonomous nature, Endosymbiotic hypothesis Mitochondrial Respiratory Chain, Chemiosmotic hypothesis	B.Sc. (Hons.) Zoology Sem II TZH	CC IV
		Biotechnology DNA Finger Printing DNA micro array	B.Sc. (Hons.) Zoology Sem VI TZH	DSE I
	Practicals:	Cell Biology Preparation of permanent slide to demonstrate: i DNA and RNA by MGP ii Proteins by Mercurobromophenol blue/ Fast Green Repetition of all experiments Conduct of Mock examination	B.Sc. (Hons.) Zoology Sem II TZH	CC IV
Revision Mock tests.		B.Sc Life Sciences Sem VI (Two batches)	DSE Zoology 4	



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Academic Planner: Even Semester 2017 (Jan-April)

Name of the Faculty: Dr. AjaibSingh

Department: Zoology

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
January	Theory	Unit 1. Human diseases Epidemiology of infectious disease, transmission, prevention and control of human diseases Tuberculosis, Amoebiasis, Dengue, Malaria, Filariasis, Japanese encephalitis	B.Sc LifeSciences Sem VI	LSPT 613 Applied biology and Biotechnology
		Carbohydrate metabolism: Glycolysis, citric acid cycle, HMP pathway, GNG, glycogenesis, glycogenolysis.	B.Sc Zoology Sem IV	CC X Biochemistry of metabolic processes
	Practicals	Isolation of plasmid DNA from E. coli. Transformation of E.coli (pUC 18/19) and calculation of transformation efficiency.	B.Sc LifeSciences Sem VI	Applied biology and Biotechnology
		Protein estimation by Lowry's method Trace the labeled C atoms in TCA cycle	B.Sc Zoology Sem IV	Biochemistry of metabolic processes
February	Theory	Microbiology of fermented food and food-borne diseases, food preservation, Micro-organism as food (e.g. SCP), Major products of industrial microbiology- antibiotics, amino acids, organic acids, vitamins, pharmaceuticals	B.Sc LifeSciences Sem VI	LSPT 613 Applied biology and Biotechnology
		Oxidative phosphorylation. Redox system, ETC, inhibitors and uncouplers	B.Sc Zoology Sem IV	CC X Biochemistry of metabolic processes
	Practicals:	Restriction Endonuclease Digestion of plasmid DNA. Ligation of Target DNA.	B.Sc LifeSciences Sem VI	Applied biology and Biotechnology

		Study of Biological Oxidation(SDH) Study of enzymatic activity of Trypsin Study of enzymatic activity of Lipase.	B.Sc Zoology Sem IV	Biochemistry of metabolic processes
March	Theory	Molecular diagnosis of genetic diseases (Cystic fibrosis, Huntington's disease and Sickle cell anemia), Recombinant vaccines, Recombinant DNA in medicines (Recombinant insulin and Human growth hormone), Gene therapy (ADA and Cystic fibrosis) and Stem Cells	B.Sc Life Sciences SemVI	LSPT 613 Applied biology and Biotechnology
	Practicals	Catabolism vs anabolism. Compartmentalization of metabolic pathways, shuttle systems and transporters.	B.Sc Zoology SemIV	Biochemistry of metabolic processes
		Gene amplification using PCR . DNA sequencing: Interpretation of sequence from the data provided. Analysis of DNA fingerprint	B.Sc LifeSciences Sem VI	Applied biology and Biotechnology
		To perform Acid Phosphatase assay To perform Alkaline Phosphatase assay To perform SGPT - To perform SGOT	B.Sc Zoology Sem IV	Biochemistry of metabolic processes
	Mid Term Test	Test of B.Sc Zoology SemIV (Biochemistry of metabolic processes) Assignments		
		Test of B.Sc Zoology SemVI (Animal. Biotechnology) Assignments		
	APRIL	Theory:	Bioremediation, Production and applications of transgenic plants (biotic, abiotic and improvement of nutritional quality) and transgenic animals (generation of medicines and hormones), Ethics and regulation of GM organisms	B.Sc Life Sciences SemVI
Un ATP as energy currency, coupled reactions, use of reducing equivalents and cofactors. Intermediary metabolism.			B.Sc Zoology SemIV	CC X Biochemistry of metabolic processes

Practicals:	Separation of proteins by SDS-PAGE. Study of protozoan, helminth parasites and arthropod vectors associated with human diseases.	B.Sc LifeSciences Sem VI	Applied biology and Biotechnology
	Mock Test and Revision	B.Sc Zoology Sem IV	Biochemistry of metabolic processes



**SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE**

January -May 2017, (Session 2016-17)

Name of the Faculty: Dr. Rajendra Phartyal

Department: Zoology

Semester: IV, VI: Theory: B.Sc. (H) Zoology Sem VI (Evolutionary Biology), BSc (P) Life Science IV (Genetics and Evolutionary Biology), BSc (H) Zoology Semester IV General Elective IV(Aquatic Biology)

Practicals: B.Sc. (H) Zoology Sem VI (Evolutionary Biology) BSc (P) Life Science IV (Genetics and Evolutionary Biology), BSc (H) Zoology Semester IV General Elective IV(Aquatic Biology)

Month		Topics	Course	Paper Code/Name
JANUARY	Theory:	Evidences of evolution: Paleontological evidences. Molecular evidences, Phylogeny of horse. Extinction and Mass extinction	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
		Types of fossils, Incompleteness of fossil record, Dating of fossils	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)
		•Brief introduction of the aquatic biomes: Freshwater ecosystem (lakes, wetlands, streams and rivers), estuaries	BSc (H) Zoology GE IV Sem IV	GE IV (Aquatic Biology)

	Practicals:	DNA databases and Sequence retrieval from databases. Designing primer for a gene (exemplified by 16S rRNA).	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
		Genetics and Evolutionary Biology Study of Human Karyotypes (normal and abnormal). Study of Mendelian Inheritance and gene interactions (Non Mendelian Inheritance) using suitable examples. Verify the results using Chi-square test.	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)
		Determining the area of a lake using graphimetric and gravimetric method. Identify the important macrophytes, phytoplanktons and zooplanktons present in a lake ecosystem.	BSc (H) Zoology GE IV Sem IV	GE IV (Aquatic Biology)
FEBRUARY	Theory:	Life's beginning :An overview (chemogeny, biogeny, the RNA World).	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
		Biological species concept (Advantages and Limitations); Modes of speciation (Allopatric, Sympatric)	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)
		Aquatic Biology Intertidal zones, oceanic pelagic zone, marine benthic zone and coral reefs. Lakes: Origin, and classification	BSc (H) Zoology GE IV Sem IV	GE IV (Aquatic Biology)
	Practicals:	Designing primer for a gene (exemplified by 16S rRNA). Demonstration of editing the sequences.	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)

		<p>Genetics and Evolutionary Biology Study of homology and analogy from suitable specimens/ picture. Study of fossil evidences from plaster cast models and pictures Phylogeny of horse with diagrams/ cut outs of limbs and teeth of horse ancestors</p>	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)
		<ul style="list-style-type: none"> Determine the amount of Turbidity/transparency, Dissolved Oxygen, Free Carbondioxide, Alkalinity (carbonates & bicarbonates) in water collected from a nearby lake/water body. 	BSc (H) Zoology GE IV Sem IV	GE IV (Aquatic Biology)
MARCH	Theory:	Products of evolutionary change : Species concept Isolating mechanisms and modes of speciation. Multiple sequence alignment, Construction of Phylogenetic tree, Interpretation of trees.	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
		Mass extinction (Causes, Names of five major extinctions, K-T extinction in detail), Role of extinction in evolution	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)
		Aquatic Biology Lake as an Ecosystem	BSc (H) Zoology GE IV Sem IV	GE IV (Aquatic Biology)
	Practicals:	Multiple Sequence Alignments. Construction of Phylogenetic trees and interpretation of results	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
		<p>Genetics and Evolutionary Biology Darwin's Finches with diagrams/ cut outs of beaks of different species Study of Linkage, recombination, gene mapping using the data.</p>	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)
		Instruments used in limnology (Secchi disc, Van Dorn Bottle, Conductivity meter, Turbidity meter, PONAR grab sampler)and their significance. A Project Report on a visit to a Sewage treatment plant	BSc (H) Zoology GE IV Sem IV	GE IV (Aquatic Biology)
	<u>Assignment</u>		B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)

	<u>TESTS</u>		BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary)
			BSc (H) Zoology GE IV Sem IV	GE IV (Aquatic Biology)
			B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
			BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary)
			BSc (H) Zoology GE IV Sem IV	GE IV (Aquatic Biology)
APRIL	Theory	Origin and evolution of man	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
		Macro-evolutionary Principles (example: Darwin's Finches)	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)
		Lake morphometry, Physico-chemical Characteristics: Light, Temperature, Thermal stratification	BSc (H) Zoology GE IV Sem IV	GE IV (Aquatic Biology)
	Practicals:	<ul style="list-style-type: none"> Revision and mock practical test 	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
		<p style="text-align: center;">Genetics and Evolutionary Biology</p> <ul style="list-style-type: none"> Revision and mock practical test 	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)
		<ul style="list-style-type: none"> Revision and mock practicals 	BSc (H) Zoology GE IV Sem IV	GE IV (Aquatic Biology)



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Mansi Verma

Department: Zoology

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
January	Theory	Unit 1. Mechanism of Transcription RNA Polymerase and the transcription unit	B.Sc. (H) Biological Science	Molecular Biology MBHT-402
		Unit 1. Introduction Concept and scope of biotechnology, Tools and techniques in biotechnology	B.Sc. (H) Zoology III Year	Biotechnology Paper 22-ZOHT 611
		Unit 5: Enzymes(introduction)	B.Sc. (H) Zoology II Year	Fundamentals of Biochemistry
	Practicals	Preparation of culture medium (LB) for E.coli (both solid and liquid) and raise culture of E.coli	B.Sc. (H) Biological Science	Molecular Biology MBHT-402
		DNA databases and Sequence retrieval from databases. Designing primer for a gene (exemplified by 16S	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
		Genetics and Evolutionary Biology Study of Human Karyotypes (normal and abnormal). Study of Mendelian Inheritance and gene interactions (Non Mendelian Inheritance) using suitable examples. Verify the results using Chi-square test.	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)
February	Theory	Transcription in Prokaryotes Transcription in Eukaryotes Unit 2. RNA Modifications (Ch 13 Watson) Split genes, concept of introns and exons, removal of Introns, spliceosome machinery, splicing pathways, alternative splicing, exon shuffling, RNA editing, and mRNA transport.	B.Sc. (H) Biological Science	Molecular Biology MBHT-402
		Molecular diagnosis of genetic diseases (Cystic fibrosis, Huntington's disease, Sickle cell anemia),	B.Sc. (H) Zoology III Year	Biotechnology Paper 22-ZOHT 611
		Unit 5: Enzymes	B.Sc. (H) Zoology II Year	Fundamentals of Biochemistry
		Practicals :	Demonstration of antibiotic resistance. (Culture of E.coli containing plasmid (pUC 18/19) in LB medium with/without antibiotic pressure and interpretation of results).	B.Sc. (H) Biological Science
	Designing primer for a gene (exemplified by 16S rRNA). Demonstration of editing the sequences.		B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)

		<p align="center">Genetics and Evolutionary Biology</p> <p>Study of homology and analogy from suitable specimens/ picture. Study of fossil evidences from plaster cast models and pictures Phylogeny of horse with diagrams/ cut outs of limbs and teeth of horse ancestors</p>	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)
March	Theory	Unit 3. Translation (Prokaryotes and Eukaryotes) Assembly line of polypeptide synthesis - ribosome structure and assembly, various steps in protein synthesis. Charging of tRNA, aminoacyl tRNA synthetases. Proteins involved in initiation, elongation and termination of polypeptides.	B.Sc. (H) Biological Science	Molecular Biology MBHT-402
		RFLP, RAPD and DNA fingerprinting, Vaccines and therapeutic agents, Recombinant DNA in medicines (recombinant insulin and human growth hormone)	B.Sc. (H) Zoology III Year	Biotechnology Paper 22-ZOHT 611
		Unit 5: Enzymes	B.Sc. (H) Zoology II Year	Fundamentals of Biochemistry
	Practicals	Isolation and quantitative estimation of salmon sperm/ calf thymus DNA using colorimeter (Diphenylamine reagent) or spectrophotometer (A260 measurement).	B.Sc. (H) Biological Science	Molecular Biology MBHT-402
		Multiple Sequence Alignments. Construction of Phylogenetic trees and interpretation of results	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
		<p align="center">Genetics and Evolutionary Biology</p> <p>Darwin's Finches with diagrams/ cut outs of beaks of different species Study of Linkage, recombination, gene mapping using the data.</p>	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)
	Mid Term Test			
April	Theory	Fidelity of translation. Inhibitors of protein synthesis. Regulation of translation Translation-dependent regulation of mRNA and Protein Stability.	B.Sc. (H) Biological Science	Molecular Biology MBHT-402
		Gene therapy, Enzymes in detergents and leather industries, Heterologous protein production,	B.Sc. (H) Zoology III Year	Biotechnology Paper 22-ZOHT 611
		Unit 5: Enzymes:	B.Sc. (H) Zoology II Year	Fundamentals of Biochemistry
	Practicals :	To perform Ames test in Salmonella / E.coli to study mutagenicity.	B.Sc. (H) Biological Science	Molecular Biology MBHT-402
		• Revision and mock practical test	B.Sc. (H) Zoology Sem VI	ZOHP-610 (Evolutionary Biology)
		<p align="center">Genetics and Evolutionary Biology</p> <p>• Revision and mock practical test</p>	BSc (P) Life Science Sem IV	CC-4 (Genetics and Evolutionary Biology)



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Academic Planner: Even Semester 2016-2017 (Jan-April)

Name of the Faculty: Dr. P.Jayaraj

Department: Zoology

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
January	Theory	COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTEBRATES Unit 9: Scope and History of Developmental Biology 5 hrs Concepts of Epigenesis, Preformation, Specification, Determination, Differentiation, Morphogenesis, Embryonic induction	B.Sc. Life sciences sem II (FLS)	LS Core II
		DEVELOPMENTAL BIOLOGY AND PHYSIOLOGY- ANIMAL Unit 1. Principles of developmental biology (Ch 1, 2 Gilbert) (3 Periods) History, Anatomical aspects of development biology	B.Sc. Life sciences sem II (TLS)	LSPT 614
		DIFFERENTIATION AND MORPHOGENESIS UNIT 1 Morphogens; epithelial and mesenchymal cells; morphogenetic gradients; cell specifications; determination and differentiation; pattern formation with reference to animal	B.Sc (H) Biological science TBS	BIST 602
	Practicals	DEVELOPMENTAL BIOLOGY Study of whole mounts and sections of developmental stages of frog through permanent slides: Cleavage stages, blastula, gastrula, neurula, tail-bud stage, tadpole (external and internal gill stages)	B.Sc (H) Zoology III year VI semester (TZH)	CORE COURSE XIII
		COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTEBRATES 1. Osteology: a) Disarticulated skeleton of fowl and rabbit 28 b) Carapace and plastron of turtle/tortoise c) Mammalian skulls: one herbivorous and one carnivorous animal	B.Sc. Life sciences sem II (FLS)	LS Core II
February	Theory	COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY OF VERTEBRATES Unit 10: Early Embryonic Development 12 hrs Gametogenesis: Spermatogenesis and Oogenesis in mammals; Fertilization: External (amphibians), Internal (mammals), blocking mechanisms to Polyspermy; Types and Patterns of cleavage;	B.Sc. Life sciences sem II (FLS)	LS Core II

		DEVELOPMENTAL BIOLOGY AND PHYSIOLOGY- ANIMAL Unit 2. Animal development (Ch 47 Campbell) (12 Periods) Gametogenesis, fertilization, cleavage, gastrulation, cell fate	B.Sc. Life sciences sem II (TLS)	LSPT 614
		DIFFERENTIATION AND MORPHOGENESIS UNIT 2 Cell adhesion (role of cadherins); cell affinity; cell interactions; cell matrix; signal transduction-RTK signal transduction pathway;	B.Sc (H) Biological science TBS	BIST 602
	Practicals:	DEVELOPMENTAL BIOLOGY Study of whole mounts of developmental stages of chick through permanent slides: Primitive streak (13 and 18 hours), 21, 24, 28, 33, 36, 48, 72, and 96 hours of incubation (Hamilton and Hamburger stages)	B.Sc (H) Zoology III year VI semester (TZH)	CORE COURSE XIII
		Comparative anatomy and developmental biology Frog - Study of developmental stages - whole mounts and sections through permanent slides - cleavage stages, blastula, gastrula, neurula, tail bud stage, tadpole external and internal gill stages.	B.Sc. Life sciences sem II (FLS)	LS Core II
		Unit 6: Immune system in health and disease 10 Gell and Coombs		
March	Theory	DEVELOPMENTAL BIOLOGY Early development of frog and chick up to gastrulation; Embryonic induction and organizers	B.Sc (H) Zoology III year VI semester (TZH)	CORE COURSE XIII
		DEVELOPMENTAL BIOLOGY AND PHYSIOLOGY- ANIMAL Unit 3. Digestion & absorption of food Structure & function of gastrointestinal tract	B.Sc. Life sciences sem II (TLS)	LSPT 614
		DIFFERENTIATION AND MORPHOGENESIS UNIT 2 juxtacrine signaling-Notch path way; c-AMP pathway; embryonic induction.; body coordinates in drosophila	B.Sc (H) Biological science TBS	BIST 602
	Practical	DEVELOPMENTAL BIOLOGY Study of the developmental stages and life cycle of Drosophila from stock culture	B.Sc (H) Zoology III year VI semester (TZH)	CORE COURSE XIII

	<p>Comparative anatomy and developmental biology</p> <ul style="list-style-type: none"> Study of the different types of placenta- histological sections through permanent slides or photomicrograph. 	B.Sc. Life sciences sem II (FLS)	LS core II
Assignment	<p>DEVELOPMENTAL BIOLOGY</p> <p>To Solve and submit questionnaire for the topics covered before mid semester break</p>	B.Sc (H) Zoology III year VI semester (TZH)	CORE COURSE XIII
	<p>To Solve and submit questionnaire for the topics covered before mid semester break</p>	B.Sc. Life sciences sem II (FLS)	

	Mid Term Test	Topics covered before mid semester break and from assignment		
APRIL	Theory:	<p>DEVELOPMENTAL BIOLOGY</p> <p>Unit 4: Post Embryonic Development</p> <p>Metamorphosis: Changes, hormonal regulations in amphibians and insects;</p> <p>Regeneration: Modes of regeneration, epimorphosis, morphallaxis and compensatory regeneration (with one example each);</p>	B.Sc (H) Zoology III year VI semester (TZH)	CORE COURSE XIII

	<p>DEVELOPMENTAL BIOLOGY AND PHYSIOLOGY- ANIMAL Unit 7. Endocrine system and reproduction Common features of endocrine system, functional role of endocrine glands.</p>	B.Sc. Life sciences sem II (TLS)	LSPT 614
	<p>DIFFERENTIATION AND MORPHOGENESIS UNIT 4 Stem cells ; therapeutic cloning; teratogenesis; cancer-types, oncogenes and treatment ; genetic transformations</p>	B.Sc (H) Biological science TBS	BIST 602
Practicals:	<p>DEVELOPMENTAL BIOLOGY Study of different sections of placenta (photomicrograph/ slides) Submission of project report on Drosophila culture/chick embryo development</p> <ul style="list-style-type: none"> • Revision/ mock exam 	B.Sc (H) Zoology III year VI semester (TZH)	CORE COURSE XIII
	<p>Comparative anatomy and Developmental Biology Temporary mount of sperm (frog/rat) *(To be approved by Animal Ethical Committee of the college) 5. Study visit to a IVF centre and submission of report.</p> <ul style="list-style-type: none"> • Revision/ mock exam 	B.Sc. Life sciences Sem II (FLS)	LS Core II



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
Jan-April, 2016-17 (Even Semester)

Name of the Faculty: Dr. RIYAZ
Department: Zoology
Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JAN	Theory	Unit 1: Digestion and Absorption of Food	B.Sc. IV SEM	GE-II, Human Physiology
		Integumentary System Derivatives of integument w.r.t. glands and digital tips	B.Sc. Life sciences sem II (FLS)	COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY
		Unit 1: Introduction to Medical Diagnostics and its Importance	Life Sc. Sem-VI	SEC/ Medical Diagnostics
		Unit 1: Physiology of Digestion	Zoo(H), SEM-IV	Physiology: Life sustaining systems
	Practicals	Temporary mount of neuron, blood film preparation, ABO blood group, Preparation of haemin and haemochromogen crystals.	GE II Zoology, Semester-IV	GE II: Human Physiology
		Blood pressure measurement, Determination of blood group, Instructions for Maintaining records	SBS	SEC/ Medical Diagnostics
		Blood pressure measurement, Determination of blood group, Instructions for Maintaining records	B.Sc. Life sciences sem IV(SLS)	SEC/ Medical Diagnostics
February	Theory	Unit 3: Respiratory Physiology	B.Sc. IV SEM	GE-II, Human Physiology
		Integumentary System Derivatives of integument w.r.t. glands and digital tips	B.Sc. Life sciences sem II (FLS)	COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY

		Unit 3:Diagnostic Methods Used for Urine Analysis	Life Sc. Sem-VI	SEC/ Medical Diagnostics
		<ul style="list-style-type: none"> Unit 4: Blood 	Zoo(H),SEM-IV	Physiology: Life sustaining systems
	Practicals:	Estimation of haemoglobin using Sahli's haemoglobinometer, Examination of sections of mammalian stomach, lung, kidney, pancreas, ovary, testis, thyroid.	GE II Zoology, Semester-IV	GE II: Human Physiology
		Bleeding time, clotting time, Enumerate DLC, Abnormal constituents of urine	SBS	LS Core II
		Bleeding time, clotting time, Enumerate DLC, Abnormal constituents of urine	B.Sc. Life sciences sem IV(SLS)	LS Core II
March	Theory	<ul style="list-style-type: none"> Unit 5: Cardiovascular Physiology Unit 4: Renal Physiology 	B.Sc. IV SEM	GE-II,Human Physiology
		Digestive System Brief account of alimentary canal and digestive glands	B.Sc. Life sciences sem II (FLS)	COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY
		Unit 5:Infectious Diseases, Non infectious diseases	Life Sc. Sem-VI	SEC/ Medical Diagnostics
		<ul style="list-style-type: none"> Unit 5: Physiology of Heart 	Zoo(H),SEM-IV	Physiology: Life sustaining systems
	Practical	Recording of blood pressure, Repeat of Histology sections.	GE II Zoology, Semester-IV	GE II: Human Physiology
		Hemoglobin content estimation, Testing of blood glucose, Ishihara charts	SBS	SEC/ Medical Diagnostics
		Hemoglobin content estimation, Testing of blood glucose, Ishihara charts	B.Sc. Life sciences sem IV(SLS)	SEC/ Medical Diagnostics
	<u>Assignment</u>	ACCORDING TO TOPICS	GE II Zoology, Semester-IV	GE-II,Human Physiology
		ACCORDING TO TOPICS	B.Sc. Life sciences sem II (FLS)	COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY
		ACCORDING TO TOPICS	Life Sc. Sem-VI	SEC/ Medical Diagnostics
		ACCORDING TO TOPICS	Zoo(H),SEM-IV	Physiology: Life sustaining systems
	<u>Mid Term Test</u>	Test will include all the topics covered	L.Sc. Life Sciences Sem VI	GE II: Human Physiology
		Test will include all the topics covered	SBS	SEC/ Medical Diagnostics

		Test will include all the topics covered	B.Sc. Life sciences sem IV	Physiology: Life sustaining systems
APRIL	Theory:	Unit 6: Endocrine and Reproductive Physiology	B.Sc. IV SEM	GE-II, Human Physiology
		Digestive System Brief account of alimentary canal and digestive glands Revision	B.Sc. Life sciences sem II (FLS)	COMPARATIVE ANATOMY AND DEVELOPMENTAL BIOLOGY
		Unit 6: Tumours, MRI, CT SCAN, X RAY	L.Sc. Life Sciences Sem IV	SEC/ Medical Diagnostics
		Revision	Zoo(H), SEM-IV	CC-IX- Physiology:
	Practicals:	Revision/ mock exam	GE II Zoology, Semester-IV	GE II: Human Physiology
		ECG, Medical Imaging- X-ray, CT, MRI Revision/ mock exam continuous evaluation Evaluation of students on their performance in practical and Record -Submission of Report and File, -Viva for practical exams.	SBS	SEC/ Medical Diagnostics
		ECG, Medical Imaging- X-ray, CT, MRI Revision/ mock exam continuous evaluation Evaluation of students on their performance in practical and Record -Submission of Report and File, -Viva for practical exams.	B.Sc. Life sciences sem IV(SLS)	SEC/ Medical Diagnostics



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
January-May, 2016-17 (Even)

Name of the Faculty: Dr. Vagisha Rawal

Department: Zoology

Semester: II, IV, VI –

Theory: Bio. Sciences Sem VI Applied biology, B.Sc. (H) Zoo Sem VI Environment management, B.Sc. (H) Zoology Sem II Biodiversity-II Chordata I, Biological Sciences Sem II Biodiversity & bio-Prospecting

Practical: B.Sc. Life Sciences Sem IV Genetics and Genomics, B.Sc. (H) Zoo Sem VI Biotechnology, Bio. Sciences Sem VI Applied Biology

Month		Topics	Course	Paper Code/Name
January	Theory:	Environment Management <ul style="list-style-type: none"> Unit 7: Conservation of resources (10 periods) Soil – Contour farming, afforestation and reforestation; Water – Rainwater harvesting, aquifers, groundwater recharge, watershed management; Biodiversity – In-situ conservation (Sanctuaries, National Parks, Biosphere Reserves, World Heritage Sites), Project Tiger and other conservation efforts. 	B.Sc. (Hons.) Zoology Sem VI TZH	BTHP 509: Environmental Management
		UNIT 1 <ul style="list-style-type: none"> Defining Biodiversity - Components of biodiversity. Biodiversity crisis and biodiversity loss. Importance of biodiversity in daily life. Biodiversity and climate change. 	Biological Sciences Sem II FBS	BIST 201: Biodiversity & bio- Prospecting
		Applied Biology UNIT 3 <ul style="list-style-type: none"> Economic importance of insects .Insects as agents of human diseases (Mosquito, Flea and Lice) 	Biological Sciences Sem VI TBS	BIST 601 : Applied Biology
		Amphibia <ul style="list-style-type: none"> Classification upto orders. Origin and evolution of terrestrial ectotherms, Parental care. Pearl formation in bivalves Evolutionary significance of trochophore larva 	B.Sc. (Hons.) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity-II Chordata I

	Practicals: (4+4+4=12)	Biotechnology <ul style="list-style-type: none"> Transformation of <i>E.coli</i> (pUC 18/19) and calculation of transformation efficiency. Plasmid DNA isolation (pUC 18/19) and DNA quantitation using agarose gel electrophoresis (by using lambda DNA as standard). 	B.Sc. (Hons.) Zoology Sem VI TZH	ZOHP 611: Biotechnology
		<ul style="list-style-type: none"> Chi square analysis of a dihybrid F2 population data Meiosis – <i>Allium cepa</i> Buds Pedigree analysis of hemophilia in Queen Victoria family Colour blindness- Ishihara’s Chart 	B.Sc. Life Sciences Sem IV SLS	LSPP 512- Genetics and Genomics
		<ul style="list-style-type: none"> Identification of the following pests :Mosquito, Flea, Louse, Heliothis, Locust, Termite, Leptocorisa, Trogoderma, Sitophilus, Callosobruchus. Determination of LD50 or LC50 of insecticides 	Biological Sciences Sem VI TBS	BIST 601 : Applied Biology
		Theory:		
February		<ul style="list-style-type: none"> Unit 7: Conservation of resources Social forestry and Joint forestry Management; Ex-situ conservation (botanical gardens, gene banks, cryopreservation); Role of organizations like NBPGR, BSI, ZSI, WWF, IUCN and conventions like Convention on Biological diversity; Ramsar Convention, National Action Plan on Conservation of Biodiversity; Environmental laws and acts. 	B.Sc. (Hons.) Zoology Sem VI TZH	BTHP 509: Environmental Management
		UNIT 2: <ul style="list-style-type: none"> Modern Tools in the study of Biodiversity Endemism, endemic plants and animals; Assessment of mapping of biodiversity; GIS/Remote sensing; Biotechnology and Conservation, IUCN; Germplasm banks, National Parks, Botanical Gardens; Wildlife Sanctuaries, Bioresources 	Biological Sciences Sem II FBS	BIST 201: Biodiversity & bio-Prospecting
		UNIT 3 <ul style="list-style-type: none"> Stored grain insects and their control. Various strategies for Integrated Pest 	Biological Sciences Sem VI TBS	BIST 601 : Applied Biology
		Reptiles <ul style="list-style-type: none"> Classification upto orders. Origin, Poisonous and non- poisonous snakes in India, Biting mechanism in snakes, Affinities of <i>Sphenodon</i>. 	B.Sc. (Hons.) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity-II Chordata I

	Practicals: (4+4+4=12)	<ul style="list-style-type: none"> Restriction digestion of lambda (λ) DNA using <i>EcoRI</i> and <i>Hind III</i>. DNA ligation (lambda DNA <i>EcoRI/Hind III</i> digested). Restriction digestion (pUC 18/19) with <i>EcoRI</i> and ligation of linear pUC 18/19 DNA with <i>EcoRI</i>-digested lambda (λ) DNA. 	B.Sc. (Hons.) Zoology Sem VI TZH	ZOHP 611: Biotechnology
		<ul style="list-style-type: none"> Study of the following with the help of photographs: Sex chromosomes in <i>Melandrium/ Coccinia</i>, Multivalents, Inversion bridge, Laggards, Translocation Ring (<i>Rhoeo</i>), Human Genetic Syndromes (Down's, Turner's, Klinefelter's), Barr Bodies. Pedigree analysis of hemophilia in Queen Victoria family 	B.Sc. Life Sciences Sem IV SLS	LSPP 512- Genetics and Genomics
		<ul style="list-style-type: none"> Identification of the following pests :Mosquito, Flea, Louse, Heliothis, Locust, Termite, Leptocorisa, Trogoderma, Sitophilus, Callosobruchus. Determination of LD50 or LC50 of insecticides 	Biological Sciences Sem VI TBS	BIST 601 : Applied Biology
March	Theory:	<ul style="list-style-type: none"> Unit 8: Global environment change Greenhouse effect and global warming; climate change; Shrinking of glaciers and polar ice caps and consequent effects on river and sea levels; Ozone layer depletion; vegetation and biota; International efforts to control these effects (Vienna Convention, Montreal Protocol, UNFCCC, Kyoto Protocol, Copenhagen Summit, etc.); IPCC; Biosafety of GMOs and LMOs. 	B.Sc. (Hons.) Zoology Sem VI TZH	BTHP 509: Environmental Management
		<p>Representative type (one each) studies from</p> <ul style="list-style-type: none"> Non-chordates and Chordates; Sacred flora and fauna <p>Bio-prospecting</p> <ul style="list-style-type: none"> Micro organisms as a source of novel enzymes, antibiotics, antiviral agents; Immunosuppressive agents and other therapeutic agents. Botanicals for Biocontrol, Health and biodiversity. 	Biological Sciences Sem II FBS	BIST 201: Biodiversity & bio-Prospecting
		<ul style="list-style-type: none"> Management: Mechanical, Physical, Cultural, Biological, Chemical, Physiological, Regulatory etc. 	Biological Sciences Sem VI TBS	BIST 601 : Applied Biology

	Aves	<ul style="list-style-type: none"> Classification upto orders. Origin, Flight adaptations, Mechanism of flight and Migration. 	B.Sc. (Hons.) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity-II Chordata I
	Practicals (4+4+4=12)	<ul style="list-style-type: none"> Transformation with ligated DNA in <i>E.coli</i> and selection of transformants on X-gal and IPTG. Separation of proteins by SDS-PAGE. To perform dry lab experiments using data to demonstrate the significance of various enzymes like alkaline phosphatase, frequent cutters etc. 	B.Sc. (Hons.) Zoology Sem VI TZH	ZOHP 611: Biotechnology
		<ul style="list-style-type: none"> Gene Interactions with the help of <i>Drosophila</i> culture for the following dihybrid F2 segregation ratios: 9:7; 9:4:3; 13:3; 12:3:1 Construction of linkage map based on recombination frequency data obtained from a two point cross (use real life data). 	B.Sc. Life Sciences Sem IV SLS	LSPP 512- Genetics and Genomics
		<ul style="list-style-type: none"> Study of modern contraceptive devices, Project on topics associated with human reproduction. Visit to centres of proficiency in reproductive physiology and ART. 	Biological Sciences Sem VI TBS	BIST 601 : Applied Biology
		Related Topics from syllabus	B.Sc. (Hons.) Zoology Sem VI TZH	BTHP 509: Environmental Management
April	Mid Term Test	Related Topics from syllabus	Biological Sciences Sem VI TBS	BIST 601 : Applied Biology
		Related Topics from syllabus	Biological Sciences Sem II FBS	BIST 201: Biodiversity & bio-Prospecting
		Related Topics from syllabus	B.Sc. (Hons.) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity-II Chordata I
		Related Topics from syllabus	B.Sc. (Hons.) Zoology Sem VI TZH	BTHP 509: Environmental Management
		<ul style="list-style-type: none"> Test questions from covered topics 	Biological Sciences Sem II FBS	BIST 201: Biodiversity & bio-Prospecting
		<ul style="list-style-type: none"> Test questions from covered topics 	B.Sc. (Hons.) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity-II Chordata I
		<ul style="list-style-type: none"> Test questions from covered topics 	Biological Sciences Sem VI	BIST 601 : Applied Biology

			TBS	
April	Theory:	<ul style="list-style-type: none"> Unit 8: Global environment change International efforts to control these effects (Vienna Convention, Montreal Protocol, UNFCCC, Kyoto Protocol, Copenhagen Summit, etc.); IPCC; Biosafety of GMOs and LMOs. 	B.Sc. (Hons.) Zoology Sem VI TZH	BTHP 509: Environmental Management
		<ul style="list-style-type: none"> Revision 	Biological Sciences Sem II FBS	BIST 201: Biodiversity & bio- Prospecting
		<ul style="list-style-type: none"> Revision 	B.Sc. (Hons.) Zoology Sem II FZH	Paper 5-ZOHT 202: Biodiversity-II Chordata I
		<ul style="list-style-type: none"> Revision 	Biological Sciences Sem VI TBS	BIST 601 : Applied Biology
	Practicals:	<ul style="list-style-type: none"> Revision/Mock test 	B.Sc. (Hons.) Zoology Sem VI TZH	ZOHP 611: Biotechnology
		<ul style="list-style-type: none"> Revision/Mock test 	Biological Sciences Sem VI TBS	BIST 601 : Applied Biology
		Revision/Mock test	B.Sc. Life Sciences Sem IV SLS	LSPP 512- Genetics and Genomics



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
(2016-17)

Name of the Faculty: Dr. S. Venkata Kumar

Department: Commerce

Semester: VI

Month	Type of Class	Topics	Course	Paper Code/Name
JANUARY 2017	Theory	1. An introduction to international business: Globalisation and its growing importance in world economy; Impact of globalization; international business contrasted with domestic business – complexities of international business; Modes of entry into international business; 2. Thinking conceptually about politics: liberty, equality, justice, rights and recognition, the idea of a good society, domain of politics and ethics, democracy and welfare state, market and globalisation; consequentialism, deontologism, teleological reasoning, concept of business, ethics, corporate code of ethics, environment, accountability, responsibility, leadership, diversity, discrimination	1. B.Com. (Hons) - VI 2. B.Com. (Hons) - VI	1. CH 6.1: International Business 2. CH 6.2: Governance, Ethics and Social Responsibility of Business
	Tutorials	1. An introduction to international business: Globalisation and its growing importance in world economy; Impact of globalization; international business contrasted with domestic business – complexities of international business; Modes of entry into international business; 2. Thinking conceptually about politics: liberty, equality, justice, rights and recognition, the idea of a good society, domain of politics and ethics, democracy and welfare state, market and globalisation	1. B.Com. (Hons) - VI 2. B.Com. (Hons) - VI	1. CH 6.1: International Business 2. CH 6.2: Governance, Ethics, and Social Responsibility of Business
Month	Type of Class	Topics	Course	Paper Code/Name
FEBURARY 2017	Theory	1. International business environment: National and foreign environments and their components –	1. B.Com. (Hons) - VI 2. B.Com. (Hons)- VI	1. CH 6.1: International Business

		<p>economic, cultural, and political-legal environments; Theories of international trade – an overview; Global trading environment – recent trends in world trade in goods and services; trends in India’s foreign trade</p> <p>2. Principles of business ethics, characteristics of ethical organisation, theories of business ethics, globalization and business ethics, stakeholder’s protection, corporate governance and business ethics; conceptual framework of corporate governance, insider trading, rating agencies, whistle blowing, corporate governance reforms, initiatives in India including clause 49.</p>		<p>2. CH 6.2: Governance, Ethics, and Social Responsibility of Business</p>
	Tutorials	<p>1. International business environment: National and foreign environments and their components – economic, cultural, and political-legal environments; Theories of international trade – an overview; Global trading environment – recent trends in world trade in goods and services; trends in India’s foreign trade</p> <p>2. Principles of business ethics, characteristics of ethical organisation, theories of business ethics, globalization and business ethics, stakeholder’s protection, corporate governance and business ethics; conceptual framework of corporate governance, insider trading, rating agencies, whistle blowing, corporate governance reforms, initiatives in India including clause 49.</p>	<p>1. B.Com. (Hons) - VI 2. B.Com. (Hons)- VI</p>	<p>1. CH 6.1: International Business 2. CH 6.2: Governance, Ethics and Social Responsibility of Business</p>
Month	Type of Class	Topics	Course	Paper Code/Name
MARCH 2017	Theory	<p>1. Commercial policy instruments – tariff and non-tariff measures, balance of payment account and its components; An overview of other organizations – UNCTAD, World Bank and IMF, Commodity and other trading agreements; regional economic co-operation, forms of regional groupings; integration efforts among countries in Europe, North America and Asia</p> <p>2. Junk Bond scam (USA), Bank of credit and commerce international (UK), Maxwell</p>	<p>1. B.Com. (Hons) - VI 2. B.Com. (Hons)- VI</p>	<p>1. CH 6.1: International Business 2. CH 6.2: Governance, Ethics and Social Responsibility of Business</p>

		communication corporation and Mirror Group Newspapers (UK), Enron (USA), WorldCom (USA), Tyco (USA), Anderson Worldwide (USA), Kirch Media (Germany), Vivendi (France), Parmalat (Italy) and Satyam Computer Services Ltd. (India), Common Governance Problems noticed in various corporate failures, is corporate governance always the cause for corporate failures?; Codes and standards on corporate governance (Unit VII)		
	Tutorials	1. Topics on unit- II 2. Topics on unit – VI & VII	1. B.Com. (Hons) - VI 2. B.Com. (Hons)- VI	1. CH 6.1: International Business 2. CH 6.2: Governance, Ethics and Social Responsibility of Business
	Assignment	1. Topics allotment for making the assignments. 2. Topics allotment for making the assignments.	1. B.Com. (Hons) - VI 2. B.Com. (Hons)- VI	1. CH 6.1: International Business 2. CH 6.2: Governance, Ethics and Social Responsibility of Business
	Test	1. Test would be conducted on the concerned subject after mid-semester break. 2. Test would be conducted on the concerned subject after mid-semester break.	1. B.Com. (Hons) - VI 2. B.Com. (Hons)- VI	1. CH 6.1: International Business 2. CH 6.2: Governance, Ethics and Social Responsibility of Business
Month	Type of Class	Topics	Course	Paper Code/Name
APRIL 2017	Theory	1. International Financial environment: International financial system and institutions; foreign investment in Indian perspective. 2. Corporate social responsibility (CSR) – Unit-VIII	1. B.Com. (Hons) - VI 2. B.Com. (Hons)- VI	1. CH 6.1: International Business 2. CH 6.2: Governance, Ethics and Social Responsibility of Business

	Tutorials	<ol style="list-style-type: none"> 1. International Financial environment: International financial system and institutions; foreign investment in Indian perspective. 2. Corporate social responsibility (CSR) – Unit-VIII 	<ol style="list-style-type: none"> 1. B.Com. (Hons) - VI 2. B.Com. (Hons)- VI 	<ol style="list-style-type: none"> 1. CH 6.1: International Business 2. CH 6.2: Governance, Ethics and Social Responsibility of Business



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
(2016-17)

Name of the Faculty: Ms. Sunita Chhabra

Department: Commerce

Semester: VI

Month	Type of Class	Topics	Course	Paper Code/Name
JANUARY 2017	Theory	1. Meaning, nature and scope of marketing; various Marketing Philosophies, modern marketing concept; Marketing mix, marketing management process: an overview. 2. Human Resource Management: Relevance and spectrum, HRD: concept and evolution, Organization of HR Department, Role, Status and competencies of HR Manager, HR Policies. Emerging dimensions in HRM like empowerment, diversity etc. Acquisition of Human Resource: Human Resource Planning- Quantitative and Qualitative dimensions; job analysis – job description and job specification; recruitment – Concept and sources; selection – Concept and process; test and interview; placement induction.	1. B.Com (P)- III 2. B.Com (P)- III	1. CP 6.1: Marketing Management 2. CP 6.3: HRM
	Tutorials	1. Unit-1 2. Unit-1	1. B.Com (P)-III 2. B.Com (P)-III	1. CP 6.1: Marketing Management 2. CP 6.3 HRM
Month	Type of Class	Topics	Course	Paper Code/Name
FEBURARY 2017	Theory	1. Marketing Environment - macro & micro environmental factors; Consumer buying process; Factors influencing consumer buying behaviour: An overview. Market segmentation – meaning, benefits and bases of segmentation; Positioning – meaning and importance, major bases of positioning a product. 2. Training and Development: Concept and importance; identifying training and development needs; designing training programmes; role specific	1. B.Com (P)-III 2. B.Com (P)-III	1. CP 6.1: Marketing Management 2. CP 6.3 HRM

		and competency based training; evaluating training effectiveness; training process outsourcing; management development systems; career development.		
	Tutorials	1. Unit-II 2. Unit-II	1. B.Com (P)-III 2. B.Com (P)-III	1. CP 6.1: Marketing Management 2. CP 6.3 HRM
Month	Type of Class	Topics	Course	Paper Code/Name
MARCH 2017	Theory	1. Product: Concept, Product classifications; Major product decisions: Product attributes, Branding, Packaging and labeling, after sales service; Product life cycle. 2. Performance Appraisal System: nature and objectives; techniques of performance appraisal; potential appraisal and employee counseling; job changes - transfers and promotions.	1. B.Com (P)-III 2. B.Com (P)-III	1. CP 6.1: Marketing Management 2. CP: 6.3 HRM
	Tutorials	1. Unit-III&IV 2. Unit-III&IV	1. B.Com (P)-III 2. B.Com (P)-III	1. CP 6.1: Marketing Management 2. CP 6.3: HRM
	Assignment	1. Topics allotment for making the assignments. 2. Topics allotment for making the assignments.	1. B.Com (P)-III 2. B.Com (P)-III	1. CP 6.1: Marketing Management 2. CP 6.3: HRM
	Test	1. Test would be conducted on the concerned subject after mid-semester break. 2. Test would be conducted on the concerned subject after mid-semester break.	1. B.Com (P)-III 2. B.Com (P)-III	1. CP 6.1: Marketing Management 2. CP 6.3: HRM
Month	Type of Class	Topics	Course	Paper Code/Name
APRIL 2017	Theory	1. Pricing: Significance; Factors affecting price determination; Major pricing methods. Markets skimming and penetration pricing policies. Distribution: Channels of Distribution-Meaning, importance and Functions; Distribution Logistics: Meaning, importance and decisions. Promotion: Meaning and importance; Communication process;	1. B.Com (P)-III 2. B.Com (P)-III	1. CP 6.1 Marketing Management 2. CP 6.3: HRM

		<p>promotion mix.</p> <p>2. Compensation: concept, policies and administration; job evaluation; methods of wage payments and incentive plans; fringe benefits; performance linked compensation. Maintenance: employee health and safety; employee welfare; social security; grievance handling and redressal.</p>		
	Tutorials	<p>1. Unit-V</p> <p>2. Unit-V</p>	<p>1. B.Com (P)-III</p> <p>2. B.Com (P)-III</p>	<p>1. CP 6.1 Marketing Management</p> <p>2. CP 6.3: HRM</p>



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Mamta Arora

Department: Commerce

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY 2017	Theory	Unit 1: Matrices & Determinants	B.COM (H) – Sem IV	Business Mathematics BCH 4.2
FEBRUARY 2017	Theory	Unit 2: Basic calculus – Application of differentiation Unit 4: Mathematics of Finance	B.COM (H) – Sem IV	Business Mathematics BCH 4.2
	<u>Assignment</u>	Unit 1 and 4	B.COM (H) – Sem IV	Business Mathematics BCH 4.2
MARCH 2017	Theory	Unit 3: Advance Calculus – Application of partial differentiation	B.COM (H) – Sem IV	Business Mathematics BCH 4.2
	<u>Test</u>	Unit 1, 2 and 3 (application of partial differentiation)	B.COM (H) – Sem IV	Business Mathematics BCH 4.2
APRIL 2017	Theory	Unit 3: Advance Calculus – Application of integration Unit 5: LPP	B.COM (H) – Sem IV	Business Mathematics BCH 4.2



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: **Dr. Shruti Mathur**

Department: **Commerce**

Semester : **II/IV/VI**

Month		Topics	Course	Paper Code/Name
JANUARY	heory	1). Investing Fundamentals: Types of investment, Indian securities market, trading of securities, market indices, role of stock exchange, limit order and market order, buying and selling of stocks	1). B.Com Sem IV	1). BC 4.4(b)- Investing in Stock Market-SEC
		2) The Investment Environment - The investment decision process, Types of Investments – Commodities, Real Estate and Financial Assets, the Indian securities market, the market participants and trading of securities, security market indices, sources of financial information, Concept of return and risk, Impact of Taxes and Inflation on return	2) BCom H Sem VI	2) CH 6.4 (b) Fundamentals of Investment
	Tutorials	1). Discussion on IPO/FPO, Book building, Understanding SENSEX, NIFTY. Practice numerical on calculation of risk and return 2) Discussions and case studies related to: Administration of Company Law, Characteristics of Company, Lifting of Corporate veil, Types of Company, Formation of company	1). B.Com (H) Sem VI 2) BCom H Sem II	1) CH 6.4 (b) Fundamentals of Investment 2) BCH 2.3 Corporate Laws

FEBRUARY	Theory:	<p>1). Stock Analysis and Valuation: Online trading, market quotes, Risk& return, Analysis of company-financial and non financial, stock valuations: PEG, PE AND PR ratios, analyzing historic prices, basic and interactive charts, Pitfalls to avoid while investing</p> <p>2) Fixed Income Securities - Bond features, types of bonds, estimating bond yields, types of bond risks, default risk and credit rating. Approaches to Equity Analysis: Introductions to Fundamental Analysis</p>	<p>1). B.Com Sem IV</p> <p>2) BCom H Sem VI</p>	<p>1). BC 4.4(b)- Investing in Stock Market-SEC</p> <p>2) CH 6.4 (b) Fundamentals of Investment</p>
	Tutorials:	<p>1). Numerical and Presentations: Calculating Bond Yields analyzing the company's performances using various ratios and historical records.</p> <p>2) Discussions, Presentations and case studies related to Documents of the company</p>	<p>1) BCom H Sem VI</p> <p>2) BCom H Sem II</p>	<p>1) CH 6.4 (b) Fundamentals of Investment</p> <p>2) BCH 2.3 Corporate Laws</p>
	<u>Assignment /Presentation :</u>	<p>1. Investing Fundamentals</p> <p>2. Participants in Financial Markets</p> <p>3. Introduction to company and Documents of Company</p>	<p>1). B.Com Sem IV</p> <p>2. BCom H Sem VI</p> <p>3) BCom H Sem II</p>	<p>1). BC 4.4(b)- Investing in Stock Market-SEC</p> <p>2. CH 6.4 (b) Fundamentals of Investment</p> <p>3) BCH 2.3 Corporate Laws</p>

MARCH	Theory:	<p>1).Investing in Mutual Funds :meaning, motives of investing in MF, NAV, types of funds, CRISIL</p> <p>Understanding Derivatives: Futures, options</p> <p>2) Approaches to Equity Analysis: Technical Analysis and Efficient Market Hypothesis, dividend capitalisation models, and price-earnings multiple approach to equity valuation.</p> <p>Portfolio Analysis and Financial Derivatives: Portfolio and Diversification, Portfolio Risk and Return</p>	<p>1). B.Com Sem IV</p> <p>2) BCom H Sem VI</p>	<p>1). BC 4.4(b)- Investing in Stock Market-SEC</p> <p>2) CH 6.4 (b) Fundamentals of Investment</p>
	Tutorials:	<p>1) Presentations and Numericals on : Equity Valuation and Portfolio Risk and Return. Including Markowitz model, CAPM etc</p> <p>2) Discussions, Presentations and case studies related to: Management and Meetings of Company</p>	<p>1) BCom H Sem VI</p> <p>2) BCom H Sem II</p>	<p>1) CH 6.4 (b) Fundamentals of Investment</p> <p>2) BCH 2.3 Corporate Laws</p>
	<u>Test</u>	<p>1) Stock Analysis and Valuation / Investing in Mutual Funds</p> <p>2) Fixed Income Securities/ Approaches to Equity Analysis</p>	<p>1). B.Com Sem IV</p> <p>2) BCom H Sem VI</p>	<p>1). BC 4.4(b)- Investing in Stock Market-SEC</p> <p>2) 2) CH 6.4 (b) Fundamentals of Investment</p>

APRIL	Theory:	<p>1) Understanding Derivatives: Market quotes, trading, types of orders, option types, Commodity derivatives and currency derivatives</p> <p>2) Financial Derivatives: Commodities, real estate, and mutual funds. Introduction to Financial Derivatives, Financial Derivatives Markets in India.</p> <p>Investor Protection – SEBI & role of stock exchanges in investor protection, investor grievances and their redressal system, insider trading, investors’ awareness and activism.</p>	<p>1). B.Com Sem IV</p> <p>2) BCom H Sem VI</p>	<p>1). BC 4.4(b)- Investing in Stock Market-SEC</p> <p>2) CH 6.4 (b) Fundamentals of Investment</p>
	Tutorials:	<p>1) Presentation, and Discussion on Derivatives and Investor Protection.</p> <p>2) Discussions, Presentations and case studies related to Dividends, Accounts, Audit and Depositories Act 1996</p>	<p>1) BCom H Sem VI</p> <p>2) BCom H Sem II</p>	<p>1) CH 6.4 (b) Fundamentals of Investment</p> <p>2) BCH 2.3 Corporate Laws</p>
	<u>Assignment :</u>	<p>1) Presentation/ Assignment on any topic discussed thus far</p>	<p>2) BCom H Sem VI</p>	<p>2) CH 6.4 (b) Fundamentals of Investment</p>



**EVEN SEMESTER WISE TEACHING PLAN
JAN-JULY 2016-17
SRI VENKATESWARA COLLEGE**

Name of the Faculty: Ms Pooja Jain

Department: Commerce

Semester: II/IV

Month	Type of Class	Topics	Course	Paper Code/Name
JANUARY	Theory	<p>1. Unit II: Material control- concept, Methods of pricing: FIFO, LIFO, Simple Average, Weighted Average, Replacement, Standard, Treatment of losses, Bin Cards and Stores ledger, Periodic and perpetual inventory system.</p> <p>2. Unit I: Meaning, objectives and advantages of Financial, cost and management accounting, cost concepts and classifications, role of a cost accountant in an organization.</p> <p>Unit II: Materials: Material control- concept, Methods of pricing: FIFO, LIFO, Simple Average, Weighted Average, Replacement, Standard, Treatment of losses</p> <p>3. Unit I: Univariate Analysis: Measures of Central Tendency including A.M., G.M., H.M., Median, Partition values and Mode and Measures of Variation including Range, Q.D. and M.D.</p>	<p>1. B.Com. (Hons) – IVA</p> <p>2. B.Com. – IV</p> <p>3. B.Com. -II</p>	<p>1. BCH 4.1 Cost Accounting</p> <p>2. BC 4.3 Cost Accounting</p> <p>3. BC 2.3 B.Mathematics and Statistics</p>
	Practicals	Introduction to excel and Mathematics of Finance	B.Com. (Hons) – IV B	BCH 4.2 B.Mathematics
	Tutorials	<p>1. Practical problems will be discussed related to following topics: Material costing and Material Pricing</p> <p>2. Practical problems will be discussed related to following topics: AM, GM, HM, Median and Mode, QD, MD and Matrices</p>	<p>1. B.Com. – IV</p> <p>2. B.Com. -II</p>	<p>1. BC 4.3 Cost Accounting</p> <p>2. BC 2.3 B.Mathematics and Statistics</p>

Month	Type of Class	Topics	Course	Paper Code/Name
FEBRUARY	Theory	<p>1. Unit II: Materials: Techniques including EOQ, ABC, Setting stock levels, Labour: Accounting and control of labour cost, time keeping and time booking, concept and treatment of idle time, over time, labour turnover and fringe benefits</p> <p>2. Unit II: Materials: Techniques including EOQ ABC, Setting stock levels, Bin Cards and Stores ledger, Periodic and perpetual inventory system. Labour: Accounting and control of labour cost, time keeping and time booking, concept and treatment of idle time, over time, labour turnover and fringe benefits</p> <p>Unit III: Overhead: Classification, allocation and apportionment and absorption of overheads, Under and over absorption, Capacity costs, Treatment of certain items in costing like interest on capital, packing expense, debts, R&D, Activity based costing</p> <p>3. Unit I: Measures of Variation continues including variance and S.D. Unit II: Bivariate Analysis: Simple Linear Correlation Analysis including meaning, Karl Pearsons and Spearman's correlation and Simple Linear Regression Analysis: Regression equations and estimation and Relationship between correlation and regression</p>	<p>1. B.Com. (Hons) – IVA 2. B.Com. – IV 3. B.Com. -II</p>	<p>1. BCH 4.1 Cost Accounting 2. BC 4.3 Cost Accounting 3. BC 2.3 B.Mathematics and Statistics</p>
	Practicals	<p>Excel projects of Mathematics of finance-FV-annuity & Lump sum, PV-annuity & Lump sum Excel project: Graphical solutions of LPP</p>	B.Com. (Hons) – IV B	BCH 4.2 B.Mathematics
	Tutorials	<p>1. Practical problems will be discussed related to following topics: Material, Labour and Overheads 2. Practical problems will be discussed related to</p>	<p>1. B.Com. – IV 2. B.Com. -II</p>	<p>1. BC 4.3 Cost Accounting 2. BC 2.3 B.Mathematics and Statistics</p>

		following topics: SD, Variance, Correlation, Regression, Determinants and Differentiation		
	Assignment	1. Assignment on: Mathematics of finance(Excel Project) 2. Assignment on Material and Labour 3. Assignment on: Matrices and Univariate Analysis	1. B.Com. (Hons) – IVB 2. B.Com. – IV 3. B.Com. -II	1. BCH 4.1 Cost Accounting 2. BC 4.3 Cost Accounting 3. BC 2.3 B.Mathematics and Statistics
Month	Type of Class	Topics	Course	Paper Code/Name
MARCH	Theory	1. Unit III: Overhead: Classification, allocation and apportionment and absorption of overheads 2. Unit IV: Methods of Costing: Unit costing, Job costing, Contract Costing, Process costing 3. Unit III: Time based data: Index Numbers including construction of Index Numbers-Simple and Weighted, Tests of adequacy and Construction of consumer price indices.	4. B.Com. (Hons) – IVA 5. B.Com. – IV 6. B.Com. -II	1. BCH 4.1 Cost Accounting 2. BC 4.3 Cost Accounting 3. BC 2.3 B.Mathematics and Statistics
	Practicals	Excel Projects :LLP graphical solution and simplex using ‘solver-in’ in excel	B.Com. (Hons) – IV B	BCH 4.2 B.Mathematics
	Tutorials	1. Practical questions and Presentation will be taken from the following topics: Overheads and Methods of Costing 2. Practical problems will be taken from index numbers and application of differentiation	1. B.Com. – IV 2. B.Com. -II	1. BC 4.3 Cost Accounting 2. BC 2.3 B.Mathematics and Statistics
	Test	Class Test will be conducted in the first week of the month from these topics: 1. Material, Overheads and Methods of Costing 2. Material, Overheads and Methods of Costing 3. Differentiation, Univariate Analysis and Bivariate Analysis	1. B.Com. (Hons) – IVA 2. B.Com. – IV 3. B.Com. -II	1. BCH 4.1 Cost Accounting 2. BC 4.3 Cost Accounting 3. BC 2.3 B.Mathematics and Statistics
Month	Type of Class	Topics	Course	Paper Code/Name
APRIL	Theory	1. Unit III: Overhead: Under and over absorption,	4. B.Com. (Hons) – IVA	1. BCH 4.1 Cost

		Capacity levels and Costs 2. Unit V: Service costing, Reconciliation of cost and financial accounts, integral and non-integral systems 3. Unit III: Time Series Analysis including meaning, components and trend analysis: moving average and least squares method.	5. B.Com. – IV 6. B.Com. -II	Accounting 2. BC 4.3 Cost Accounting 3. BC 2.3 B.Mathematics and Statistics
	Practicals	Excel projects: Dual problems -LLP	B.Com. (Hons) – IV B	BCH 4.2 B.Mathematics
	Tutorials	1. Practical questions and Presentation will be taken from the following topics: Overheads and Methods of Costing including service costing 2. Practical problems will be taken from time series analysis and Mathematics of finance	1. B.Com. – IV 2. B.Com. -II	1. BC 4.3 Cost Accounting 2. BC 2.3 B.Mathematics and Statistics
	Assignment	1. Assignment on :Linear Programming Problem (Excel Project)	B.Com(H) Sem IV B	BCH 4.2-Business Mathematics



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. Sindhumani Bag

Department: Commerce

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY-2017	Theory	<p>1. Introduction, meaning & features, Administration of company laws, Kinds of companies.</p> <p>2. Prospectus</p> <p>3. Nature meaning, essentials and kinds of contract, Offer & Acceptance, consideration, Capacity of Parties, Free consent, Legality of object and consideration, Void agreement and contingent contract.</p> <p>4. Limited Liability Partnership Act-2008: Introduction to LLP</p>	<p>1. B.Com (H)-II sem Sec-B</p> <p>2. B.Com(H)-II sem,, SEC-A</p> <p>3.B.Com (P)-II Sem, Sec-B</p> <p>4. B.Com(P)-II sem, sec-A</p>	<p>1. BH 2.3: Corporate Laws</p> <p>2. BCH 2.3: Corporate Laws</p> <p>3. BC 2.2 Business Laws</p> <p>4. BC 2.2: Business Laws</p>
	Tutorials /Practical:	<p>1. Case laws presented by the Students</p> <p>2. Case laws presented by the Students</p> <p>3. Case laws presented by the Students</p> <p>4. Case laws presented by the Students</p>	<p>1. B.Com (H)-II sem Sec-B</p> <p>2. B.Com(H)-II sem,, SEC-A</p> <p>3.B.Com (P)-II Sem, Sec-B</p> <p>4. B.Com(P)-II sem, sec-A</p>	<p>1. BH 2.3: Corporate Laws</p> <p>2. BCH 2.3: Corporate Laws</p> <p>3. BC 2.2 Business Laws</p> <p>4. BC 2.2: Business Laws</p>
FEBRUARY 2017	Theory:	<p>1. Formation of company, Memorandu, Association & Articles of Association.</p> <p>2. Prospectus.</p> <p>3. Discharge of contract, Quasi contract, Remedies for Breach of contract Indemnity and Guarantee, Contract of Bailment and Pledge, Contract of Agency</p> <p>4. LLP Act-2008: Formation and Incorporation, Partners and their relations</p>	<p>1. B.Com (H)-II sem Sec-B</p> <p>2. B.Com(H)-II sem,, SEC-A</p> <p>3.B.Com (P)-II Sem, Sec-B</p> <p>4. B.Com(P)-II sem, sec-A</p>	<p>1. BH 2.3: Corporate Laws</p> <p>2. BCH 2.3: Corporate Laws</p> <p>3. BC 2.2 Business Laws</p> <p>4. BC 2.2: Business Laws</p>

	Tutorials/Practical:	<p>1. Case laws presented by the Students</p> <p>2. Case laws presented by the Students</p> <p>3. Case laws presented by the Students</p> <p>4. Case laws presented by the Students</p>	<p>1. B.Com (H)-II sem Sec-B</p> <p>2. B.Com(H)-II sem,, SEC-A</p> <p>3. B.Com (P)-II Sem, Sec-B</p> <p>4. B.Com(P)-II sem, sec-A</p>	<p>1. BH 2.3: Corporate Laws</p> <p>2. BCH 2.3: Corporate Laws</p> <p>3. BC 2.2 Business Laws</p> <p>4. BC 2.2: Business Laws</p>
	Assignment	Assignment questions Given to the students and collected Assignments.	<p>1. B.Com (H)-II sem Sec-B</p> <p>2. B.Com(H)-II sem,, SEC-A</p> <p>3. B.Com (P)-II Sem, Sec-B</p> <p>4. B.Com(P)-II sem, sec-A</p>	<p>1. BH 2.3: Corporate Laws</p> <p>2. BCH 2.3: Corporate Laws</p> <p>3. BC 2.2 Business Laws</p> <p>4. BC 2.2: Business Laws</p>
MARCH 2017	Theory:	<p>1. Prospectus, Share and share capital, Members and Shareholders, Director and Key Managerial personnel, Shareholders Meeting,</p> <p>2. Prospectus</p> <p>3. Sales of Goods Act-1930: Nature and formation of contract of sale, Conditions and warranty, Transfer of Property, performance of contract of sale, Unpaid seller and his Rights.</p> <p>4. Financial disclosure and Taxation, conversion to LLP,</p>	<p>B.Com (H)-II sem Sec-B</p> <p>2. B.Com(H)-II sem,, SEC-A</p> <p>3. B.Com (P)-II Sem, Sec-B</p> <p>4. B.Com(P)-II sem, sec-A</p>	<p>1. BH 2.3: Corporate Laws</p> <p>2. BCH 2.3: Corporate Laws</p> <p>3. BC 2.2 Business Laws</p> <p>4. BC 2.2: Business Laws</p>
	Tutorials/Practical:	<p>1. Case laws presented by the Students</p> <p>2. Case laws presented by the Students</p> <p>3. Case laws presented by the Students</p> <p>4. Case laws presented by the Students</p>	<p>1. B.Com (H)-II sem Sec-B</p> <p>2. B.Com(H)-II sem,, SEC-A</p> <p>3. B.Com (P)-II Sem, Sec-B</p> <p>4. B.Com(P)-II sem, sec-A</p>	<p>1. BH 2.3: Corporate Laws</p> <p>2. BCH 2.3: Corporate Laws</p> <p>3. BC 2.2 Business Laws</p> <p>4. BC 2.2: Business Laws</p>
	Test	Time schedule decided for conduct of Internal exam on 3 rd week of March.	<p>1. B.Com (H)-II sem Sec-B</p> <p>2. B.Com(H)-II sem,, SEC-A</p> <p>3. B.Com (P)-II Sem, Sec-B</p> <p>4. B.Com(P)-II sem, sec-A</p>	<p>1. BH 2.3: Corporate Laws</p> <p>2. BCH 2.3: Corporate Laws</p> <p>3. BC 2.2 Business Laws</p> <p>4. BC 2.2: Business Laws</p>

APRIL 2017	Theory:	<p>1.Accounts and Audit, Dividend provisions, Winding up of Companies, The Depository System.</p> <p>2. The Depository System.</p> <p>3. Limited Liability Partnership Act-2008: Introduction to LLP, Formation and Incorporation of LLP, Partner and their relations in LLP, Financial Disclosure and Taxation of LLP, Conversion to LLP, Winding up and Dissolution of LLP, Information Technology Act-2000: Introduction to IT Act, Digital Signature, Electronic governance, Attribution, Acknowledgement and dispatch of Electronic records, Regulation and certifying Authorities, Cyber contraventions, Adjudication, Appellate Tribunal and Offences.</p> <p>4.Winding up and Dissolution of LLP</p>	<p>1.B.Com (H)-II sem Sec-B</p> <p>2. B.Com(H)-II sem,, SEC-A</p> <p>3.B.Com (P)-II Sem, Sec-B</p> <p>4. B.Com(P)-II sem, sec-A</p>	<p>1. BH 2.3: Corporate Laws</p> <p>2. BCH 2.3: Corporate Laws</p> <p>3. BC 2.2 Business Laws</p> <p>4. BC 2.2: Business Laws</p>
	Tutorials/Practical:	<p>1. Case laws presented by the Students</p> <p>2. Case laws presented by the Students</p> <p>3. Case laws presented by the Students</p> <p>4.Case laws presented by the Students</p>	<p>1.B.Com (H)-II sem Sec-B</p> <p>2. B.Com(H)-II sem,, SEC-A</p> <p>3.B.Com (P)-II Sem, Sec-B</p> <p>4. B.Com(P)-II sem, sec-A</p>	<p>1. BH 2.3: Corporate Laws</p> <p>2. BCH 2.3: Corporate Laws</p> <p>3. BC 2.2 Business Laws</p> <p>4. BC 2.2: Business Laws</p>



**SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE**

Name of the Faculty: Dr. Vinod Kumar

Department: Commerce

Semester: IV/VI

Month	Type of Class	Topics	Course	Paper Code/Name
JANUARY 2017	Theory	<p>1. An introduction to international business: Globalisation and its growing importance in world economy; Impact of globalization; international business contrasted with domestic business – complexities of international business; Modes of entry into international business; International business environment: National and foreign environments and their components – economic, cultural, and political-legal environments; Theories of international trade – an overview; WTO –its objectives, principles, Organization structure and functioning; UNCTAD, World Bank, and IMF</p> <p>2. An overview of Business Environment: Type of environment – internal, external, micro and macro environment; competitive structure of industries, environmental analysis and strategic management; managing diversity; scope of business, characteristics of business; objectives and uses of study; process and limitations of environmental analysis; nature of economic environment; economic factors –growth strategy, basic economic system.</p>	<p>1. B.Com. (Hons) - VI 2. B.Com - VI</p>	<p>1. CH 6.1: International Business 2. CP 6.2: Business Environment</p>
	Practicals	<p>1. Word: Working with word document, Inserting, filling and formatting a table, Mail Merge including linking with Access Database, Creating Macros – sending E-mail from word Import/Export of files; converting word document to web document, PDF files; Hyperlinks; OLE security features in MS-Word – protection of documents- password for documents – checking for viruses in macros,</p>	<p>1. B.Com. (Hons.) - IV</p>	<p>1. BCH 4.3: Computer Applications in Business</p>

		referencing, creating bibliography, manage sources and citations, review documents.		
	Tutorials	<ol style="list-style-type: none"> 1. An introduction to international business: Globalisation and its growing importance in world economy; Impact of globalization; international business contrasted with domestic business – complexities of international business; Modes of entry into international business; 2. An overview of Business Environment: Type of environment – internal, external, micro and macro environment; competitive structure of industries, environmental analysis and strategic management; managing diversity; 	<ol style="list-style-type: none"> 1. B.Com. (Hons) - VI 2. B.Com. - VI 	<ol style="list-style-type: none"> 1. CH 6.1: International Business 2. CP 6.2 Business Environment
Month	Type of Class	Topics	Course	Paper Code/Name
FEBURARY 2017	Theory	<ol style="list-style-type: none"> 1. Global trading environment –recent trends in world trade in goods and services; Trends in India’s foreign trade; Commercial policy instruments – tariff and non-tariff measures; Balance of payment account and its components; Commodity and other trading agreements; Regional economic cooperation; Forms of regional groupings; Integration efforts among countries in Europe, North America and Asia; International Financial environment: International financial system and institutions; 2. Economic planning, Economic policies – New Industrial policy, FEMA, Monetary and fiscal policies; Consumer Protection Act and Competition Law; Liberalization, Privatization and Globalization of Indian Economy: Trends and Issues; 	<ol style="list-style-type: none"> 1. B.Com. (Hons) - VI 2. B.Com. - VI 	<ol style="list-style-type: none"> 1. CH 6.1: International Business 2. CP 6.2: Business Environment
	Practicals	<ol style="list-style-type: none"> 1. PowerPoint: preparing presentations, slides, handouts, speaker’s notes – outlines – media clips – charts- graphs, adding the transitions to the slide show – special effects in detail – setting slide timings; Spreadsheet: creating a work book, rearranging worksheet, organizing charts and graphs, ranges and functions & formulae; mathematical, 	<ol style="list-style-type: none"> 1. B.Com. (Hons.): IV 	<ol style="list-style-type: none"> 1. BCH 4.3: Computer Applications in Business

		statistical, financial functions such as NPV, future value, IRR, EMI, compounding yearly, periodic and monthly, auto calculate using names in a formula		
	Tutorials	<ol style="list-style-type: none"> 1. Regional economic cooperation; Forms of regional groupings; Integration efforts among countries in Europe, North America and Asia; International Financial environment: International financial system and institutions; 2. FEMA, Monetary and fiscal policies; Consumer Protection Act and Competition Law; 	<ol style="list-style-type: none"> 1. B.Com. (Hons) - VI 2. B.Com. - VI 	<ol style="list-style-type: none"> 1. CH 6.1: International Business 2. CP 6.2 Business Environment
Month	Type of Class	Topics	Course	Paper Code/Name
MARCH 2017	Theory	<ol style="list-style-type: none"> 1. Foreign exchange markets and risk management; Foreign investments – types and flows; Foreign investment in India perspective; Organisational structure for international business operations; Key Issues involved in making international production, finance, marketing and human resource decisions; international business negotiations; Developments and issues in international business: outsourcing and its potentials for India; Strategic alliances, mergers and acquisitions; role of IT in international business; international business and ecological considerations. 2. Nature and impact of culture on business, culture and globalization, social responsibilities of business, social audit, business ethics and corporate governance, demographic environment, population size, migration and ethnic aspects, birth rate, death rate and age structure 	<ol style="list-style-type: none"> 1. B.Com. (Hons) - VI 2. B.Com. - VI 	<ol style="list-style-type: none"> 1. CH 6.1: International Business 2. CP: 6.2 Business Environment
	Practicals	<ol style="list-style-type: none"> 1. Spreadsheet: Formula editing, consolidation of data & data analysis- sorting list, filter & more filtering techniques – consolidate data in multiple worksheets – what if analysis, goal seek, scenario manager, solver, lookup function – sub totals, nested – if, statistical analysis, data validation & protection – create a drop-down list from a range of cells – apply data validation to cells – copy data validation setting, remove data validation – find cell that have data 	<ol style="list-style-type: none"> 1. B.Com. (Hons.) - IV 	<ol style="list-style-type: none"> 1. BCH 4.3: Computer Applications in Business

		validation protect cell data , using password to protect sheet and workbook – use validation to create dependent list, pivot table reports & pivot chart reports		
	Tutorials	<ol style="list-style-type: none"> 1. Strategic alliances, mergers and acquisitions; role of IT in international business; international business and ecological considerations. 2. demographic environment, population size, migration and ethnic aspects, birth rate, death rate and age structure 	<ol style="list-style-type: none"> 1. B.Com. (Hons) - VI 2. B.Com. - VI 	<ol style="list-style-type: none"> 1. CH 6.1: International Business 2. CP 6.2: Business Environment
	Assignment	<ol style="list-style-type: none"> 1. Topics allotment for making the assignments. 2. Topics allotment for making the assignments. 3. Topics for making workbook on computer. 	<ol style="list-style-type: none"> 1. B.Com. (Hons) - VI 2. B.Com. – VI 3. B. Com. (Hons) - IV 	<ol style="list-style-type: none"> 1. CH 6.1: International Business 2. CP 6.2: Business Environment 3. BCH 4.3: Computer Applications in Business
	Test	<ol style="list-style-type: none"> 1. Test would be conducted on the concerned subject after mid-semester break. 2. Test would be conducted on the concerned subject after mid-semester break. 	<ol style="list-style-type: none"> 1. B.Com. (Hons) - VI 2. B.Com. - VI 	<ol style="list-style-type: none"> 1. CH 6.1: International Business 2. CP 6.2: Business Environment
Month	Type of Class	Topics	Course	Paper Code/Name
APRIL 2017	Theory	<ol style="list-style-type: none"> 1. Foreign Trade promotion measures and organizations in India; Special economic zones (SEZs) and 100% export oriented units (EOUs); Measures for promoting foreign investments into and from India; Indian joint ventures and acquisitions abroad; Financing of foreign trade and payment terms. 2. Functions of state, economic roles of government, government and legal environment; the constitutional environment, rationale and extent of state intervention. 	<ol style="list-style-type: none"> 1. B.Com. (Hons) - VI 2. B.Com. - VI 	<ol style="list-style-type: none"> 1. CH 6.1 International Business 2. CP 6.2: Business Environment
	Practicals	<ol style="list-style-type: none"> 1. Practice on MS Word, MS PowerPoint, MS Excel, MS Access 	<ol style="list-style-type: none"> 1. B.Com. (Hons.) - IV 	<ol style="list-style-type: none"> 2. BCH 4.3: Computer Applications in Business

	Tutorials	<ol style="list-style-type: none"> 1. Foreign Trade promotion measures and organizations in India; Special economic zones (SEZs) and 100% export oriented units (EOUs); Measures for promoting foreign investments into and from India; Indian joint ventures and acquisitions abroad; Financing of foreign trade and payment terms. 2. Functions of state, economic roles of government, government and legal environment; the constitutional environment, rationale and extent of state intervention. 	<ol style="list-style-type: none"> 1. B.Com. (Hons) - VI 2. B.Com. - VI 	<ol style="list-style-type: none"> 1. CH 6.1 International Business 2. CP 6.2: Business Environment
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SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Ms. Neha Singhal

Department: Commerce

Semester : II/IV/V1

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	1. Accounting for share capital and debentures. 2. Introduction to computer and introduction to operating system. 3. <ul style="list-style-type: none">• Unit I: Thinking Conceptually about Politics.• Unit II: Approaches to Moral Reasoning.• Unit III: Ethics in Business.	1) B.Com-III 2) B.com (H)-III 3) B.Com (H)-V	1. BC-4.2/ Basic Corporate Accounting 2. BCH-4.3/ Computer Applications in Business 3. CH-6.2/ Governance, Ethics & Social Responsibility of Business
	Practicals	1. Introduction to excel and Mathematics of Finance	1.B.com (H)-III	1. BCH-4.2 Business Mathematics
	Tutorials	1. Questions on Accounting for share capital and debentures. 2. Ethics in Business	1. B.Com-III 2. B.Com (H)-V	1. BC-4.2/ Basic Corporate Accounting 2. CH-6.2/ Governance, Ethics & Social Responsibility of Business

FEBRUARY	Theory:	<ol style="list-style-type: none"> Final Accounts and introduction to Valuation of Goodwill Introduction to essential tools Corporate Governance <ul style="list-style-type: none"> Unit IV: Principles and Theories of Business Ethics. Unit V: Corporate Governance. Unit VI: Major Corporate Scandals. 	<ol style="list-style-type: none"> B.Com-III B.com (H)-III B.Com (H)-V 	<ol style="list-style-type: none"> BC-4.2/ Basic Corporate Accounting BCH-4.3/ Computer Applications in Business CH-6.2/ Governance, Ethics & Social Responsibility of Business
	Practicals:	<ul style="list-style-type: none"> Excel projects of Mathematics of finance-FV-annuity & Lump sum, PV-annuity & Lump sum Excel project: Graphical solutions of LPP 	1.B.com (H)-III	1. BCH-4.2 Business Mathematics
	Tutorials:	<ol style="list-style-type: none"> Questions on Final Accounts Principles and Theories of Business Ethics 	<ol style="list-style-type: none"> B.Com-III B.Com (H)-V 	<ol style="list-style-type: none"> BC-4.2/ Basic Corporate Accounting CH-6.2/ Governance, Ethics & Social Responsibility of Business
	Assignment	<ol style="list-style-type: none"> Assignment form Chapter – Accounting for share capital and debentures Assignment from Chapter- Principles and Theories of Business Ethics Assignment on: Mathematics of finance(Excel Project) 	<ol style="list-style-type: none"> B.Com-III B.Com (H)-V B.com (H)-III 	<ol style="list-style-type: none"> BC-3.2/ Income Tax Law and Practice\ CH-5.3 (a)/ Auditing BCH-4.2 Business Mathematics
MARCH	Theory	<ol style="list-style-type: none"> Valuation of goodwill and shares. Database designs for Accounting and Business Applications Codes & Standards on Corporate Governance. 	<ol style="list-style-type: none"> B.Com-III B.com (H)-III B.Com (H)-V 	<ol style="list-style-type: none"> BC-4.2/ Basic Corporate Accounting BCH-4.3/ Computer Applications in Business CH-6.2/ Governance, Ethics & Social Responsibility of Business

	Practicals	1. Excel Projects :LLP graphical solution and simplex using ‘solver-in’ in excel	1.B.com (H)-III	1. BCH-4.2 Business Mathematics
	Tutorials	1. Valuation of goodwill and shares. 2. Codes & Standards on Corporate Governance	1. B.Com-III 2. B.Com (H)-V	1. BC-4.2/ Basic Corporate Accounting 2. CH-6.2/ Governance, Ethics & Social Responsibility of Business
	Test	1. Test from Chapter- Valuation of goodwill and shares 2. Test from chapter- Major Corporate Scandals	1. B.Com-III 2.B.Com (H)-V	1. BC-4.2/ Basic Corporate Accounting 2.CH-6.2/ Governance, Ethics & Social Responsibility of Business
	Assignment	1. Assignment from chapter- Vouching, Appointment and Removal of Auditor, Rights and Duties of a Company Auditor. 2. Assignment from chapter- Major Corporate Scandals	1. B.Com (H)-V	1. CH-5.3 (a)/ Auditing
APRIL	Theory	1. Cash Flow statement 2. CAAT tools. 3. Corporate Social Responsibility (CSR)	1. B.Com-III 3. B.com (H)-III 4. B.Com (H)-V	1. BC-4.2/ Basic Corporate Accounting 2. BCH-4.3/ Computer Applications in Business 3. CH-6.2/ Governance, Ethics & Social Responsibility of Business
	Practicals	1. Excel projects: Simplex and Dual problems -LLP	1.B.com (H)-III	1. BCH-4.2 Business Mathematics
	Assignment	1. Assignment on :Linear Programming Problem(Excel Project)	1.B.com (H)-III	1. BCH-4.2 Business Mathematics

	Tutorials	<ol style="list-style-type: none"> 1. Questions on Cash Flow statement 2. Corporate Social Responsibility (CSR) 	<ol style="list-style-type: none"> 1. B.Com-III 2. B.Com (H)-V 	<ol style="list-style-type: none"> 1. BC-4.2/ Basic Corporate Accounting 2. CH-6.2/ Governance, Ethics & Social Responsibility of Business
	Assignment	<ol style="list-style-type: none"> 1. Assignment from Chapter- Income under the head Business/ Profession 	<ol style="list-style-type: none"> 1. B.Com-III 	<ol style="list-style-type: none"> 1. BCH-3.2/Income Tax Law and Practice



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty: Shilpa

Department: Commerce

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY 2017	Theory	1 Holding companies 2 Banking companies 3 Issue, Forfeiture & Reissue of shares	B.Com(H) Semester II(A)	BCH2.2 / Corporate Accounting
		1 Unit Costing 2 Job Costing 3 Contract Costing	B.com(H) Semester IV(A)	BCH4.1/ Cost Accounting
		1 Training and Development 2 Concept and importance 3 Identifying training and development needs 4 Designing training programmes 5 Role specific and competency based training	B.Com(P) Semester VI	CP6.3 / Human Resource Management
	Practicals	Introduction to HTML, Tags and attributes	B.com(P) Semester IV	BC4.4(a) / E-Commerce(SEC)
	Tutorials	Doubt Clearing Session	B.Com(H) Semester II(A)	BCH2.2 / Corporate Accounting
		Doubt Clearing Session	B.com(H) Semester IV(A)	BCH4.1/ Cost Accounting
Case Studies Discussion		B.Com(P) Semester VI	CP6.3 / Human Resource Management	
FEBRUARY 2017	Theory:	1 Amalgamation 2 Internal Reconstruction 3 Redemption of Preference Shares	B.Com(H) Semester II(A)	BCH2.2 / Corporate Accounting
		1 Process Costing 2 Service Costing	B.com(H) Semester IV(A)	BCH4.1/ Cost Accounting
		1 Evaluating training effectiveness 2 Training process outsourcing 3 Management development systems 4 career development.	B.Com(P) Semester VI	CP6.3 / Human Resource Management
	Practicals:	Text formatting, Fonts & Hypertext Links	B.com(P) Semester IV	BC4.4(a) / E-Commerce(SEC)

Tutorials:	Doubt Clearing Session	B.Com(H) Semester II(A)	BCH2.2 / Corporate Accounting
	Doubt Clearing Session	B.com(H) Semester IV(A)	BCH4.1/ Cost Accounting
	Case studies discussion	B.Com(P) Semester VI	CP6.3 / Human Resource Management

Assignment :	Amalgamation and Internal Reconstruction	B.Com(H) Semester II(A)	BCH2.2 / Corporate Accounting
	Evaluate the budget estimate of a trip and segregate various sets of costs involved in it .	B.com(H) Semester IV(A)	BCH4.1/ Cost Accounting
	Evaluating Training effectiveness	B.Com(P) Semester VI	CP6.3 / Human Resource Management

MARCH
2017

Theory:	1Cash Flow Statement 2Financial Statements of Companies 3 Valuation of Goodwill &Shares	B.Com(H) Semester II(A)	BCH2.2 / Corporate Accounting
	1Integral &Non-Integral systems 2Reconciliation of Cost and Financial Statements	B.com(H) Semester IV(A)	BCH4.1/ Cost Accounting
	1Compensation: concept, policies and administration 2 job evaluation 3methods of wage payments and incentive plans	B.Com(P) Semester VI	CP6.3 / Human Resource Management

Practicals:	Tables ,images,Lists,Forms,Frames And Cascading style sheets	B.com(P) Semester IV	BC4.4(a) / E-Commerce(SEC)
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Tutorials:	Doubt Clearing Session	B.Com(H) Semester II(A)	BCH2.2 / Corporate Accounting
	Doubt Clearing Session	B.com(H) Semester IV(A)	BCH4.1/ Cost Accounting
	Case Studies Discussion	B.Com(P) Semester VI	CP6.3 / Human Resource Management

	Test	Holding Company And Cash Flow Statement	B.Com(H) Semester II(A)	BCH2.2 / Corporate Accounting
		Service Costing,Contract Costing &Reconciliation of Financial statements	B.com(H) Semester IV(A)	BCH4.1/ Cost Accounting
		Training &Development	B.Com(P) Semester VI	CP6.3 / Human Resource Management
APRIL 2017	Theory:	1Buy-Back of shares 2Issue &Redemption of Debentures	B.Com(H) Semester II(A)	BCH2.2 / Corporate Accounting
		1.Capacity Level Cost 2Treatment of certain items in Costing 3ABC costing	B.com(H) Semester IV(A)	BCH4.1/ Cost Accounting
		1Fringe benefits 2 Performance linked compensation.	B.Com(P) Semester VI	CP6.3 / Human Resource Management
	Practicals:	Test &Assignment of the topics covered as this is an SEC paper	B.com(P) Semester IV	BC4.4(a) / E-Commerce(SEC)
	Tutorials:	Doubt Clearing Session	B.Com(H) Semester II(A)	BCH2.2 / Corporate Accounting
		Doubt Clearing Session	B.com(H) Semester IV(A)	BCH4.1/ Cost Accounting
		Case studies discussion	B.Com(P) Semester VI	CP6.3 / Human Resource Management



**SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE**

Name of the Faculty: Dr. Arpita Kaul

Department: Commerce

Semester : II, IV & VI

Month		Topics	Course	Paper Code/Name
JAN	Theory	AMALGAMATION, INTERNAL RECONSTRUCTION	B.Com IV	BC4.2 CORPORATE ACCOUNTING
		AMALGAMATION, INTERNAL RECONSTRUCTION	B.COM H II	BC 2.2 CORPORATE ACCOUNTING
	Practicals	MS Access : Creating Tables	B.Com H IV	BCH 4.3 Computer Applications in Business
	Tutorials	Taking doubts and practice questions on amalgamation and internal reconstruction	B.Com IV	BC4.2 CORPORATE ACCOUNTING
Doubts session		B.Com H II	BCH 2.2 CORPORATE ACCOUNTING	
FEBRUARY	Theory:	HOLDING, VALUATION OF GOODWILL & SHARES	B.Com IV	BC4.2 CORPORATE ACCOUNTING
		HOLDING, VALUATION OF GOODWILL	B.Com H II	BCH 2.2 CORPORATE ACCOUNTING
	Practicals:	MS Access: Creating queries	B.Com H IV	BCH 4.3 Computer Applications in Business
	Tutorials:	Taking doubts and practice questions on holding	B.Com IV	BC4.2 CORPORATE ACCOUNTING
Doubt Session		B.Com H II	BCH 2.2 CORPORATE ACCOUNTING	

MARCH	Theory	CASH FLOW, REDEMPTION OF PREFERENCE SHARE	B.Com IV	BC4.2 CORPORATE ACCOUNTING
		VALUATION OF SHARES, CASH FLOW, REDEMPTION OF PREFERENCE SHARE	B.Com H II	BCH 2.2 CORPORATE ACCOUNTING
	Practicals	MS Access: Creating forms	B.Com H IV	BCH 4.3 Computer Applications in Business
	Tutorial	Taking doubts and practice questions on cash flow, redemption of share Doubt Session	B.Com IV B.Com H II	BC4.2 corporate accounting BCH 2.2 CORPORATE ACCOUNTING
	Assignment	Question on holding Question on holding	B.Com IV	BC4.2 Corporate Accounting BCH 2.2 CORPORATE ACCOUNTING
APRIL	Theory:	FINAL ACCOUNT, REDEMPTION OF DEBENTURES, BANKING	B.Com IV	BC4.2 CORPORATE ACCOUNTING
		BANKING, FINAL ACCOUNT, REDEMPTION OF DEBENTURES	B.Com H IV	BCH 2.2 CORPORATE ACCOUNTING
	Tutorials:	Doubts and practice questions on final accounts and redemption of debentures Doubts session	B.Com IV B.Com H IV	BC4.2 CORPORATE ACCOUNTING BCH 2.2 CORPORATE ACCOUNTING
	TEST	After mid term break, in the second week of March.	B.Com IV B.Com H IV	BC4.2 CORPORATE ACCOUNTING BCH 2.2 CORPORATE ACCOUNTING



**SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE**

Name of the Faculty: Mr. Ajit Singh

Department: Commerce

Semester: I/IV/VI

Month	Type of Class	Topics	Course	Paper Code/Name
JANUARY 2017	Theory	<p>1. The Indian Contract Act 1872: (a) Meaning, characteristics and kinds. (b) Essentials of a valid contracts- offer and acceptance, consideration, contractual capacity, free consent, legality of objects, void agreements, discharge of contracts- modes of discharge including breach and its remedies, contingent contracts.</p> <p>2. Introduction : Meaning, elements, determinants and importance of entrepreneurship and creative behavior. Entrepreneurship and creative response to the society , problems and at work. Dimensions of entrepreneurship: intrapreneurship, technopreneurship, cultural entrepreneurship, international entrepreneurship, netpreneurship, ecopreneurship, and social entrepreneurship. Type of Business Entities entrepreneurship and micro, small and medium enterprises. Concept of business groups and role of business houses and family business in india.</p> <p>3. Natural and Technological Environment :innovation, technological leadership and followership , sources of technological dynamics, technology transfer,time lags in technology introduction, status of technology in india. Management of Technology, features and Impact of Technology.</p>	<p>1. B.Com. (P) - II 2. B.Com. (Hons) – IV 3. B.Com (P)-VI</p>	<p>1. BC2.2 :Business Laws 2. BCH 4.5 : Entrepreneurship 3. CP 6.2: Business Environment</p>

	Practicals			
	Tutorials	<ol style="list-style-type: none"> 1. Case laws of offer and acceptance presented by the students. Case laws of consideration presented by students. 2. Group discussion on issue related technology and current status of technology in india. 	<ol style="list-style-type: none"> 1. B.Com (P) – II 2. B. Com (P) - VI 	<ol style="list-style-type: none"> 1. BC2.2 : Business Laws 2. CP 6.2: Business Environment
Month	Type of Class	Topics	Course	Paper Code/Name
February 2017	Theory	<p>1.The Indian contract Act, 1872: quasi contracts, contract of indemnity and guarantee, contract of bailment and contract of Agency. The sales of goods Act, 1930: the contract of sale, meaning and difference between sale and agreement to sell, conditions and warranties, transfer of ownerships in goods including sale by non-owners, performance of contract of sale.</p> <p>2.Types of business entities: The contemporary role models in indian business. Their values, business philosophy and behavioural orientations. Conflict in family business and its resolution. Entrepreneurial Sustainability: Public and private system of stimulation, support and sustainability of entrepreneurship. Requirement availability and access to finance, marketing assistance, technology, and industrial accommodation, role of industries/entrepreneurs associations and self-help groups.</p> <p>3.Political Environment: Functions of state, economic roles of government, government and legal environment.</p>	<ol style="list-style-type: none"> 1. B.Com. (P) - II 2. B.Com. (Hons) – IV 3.B.Com (P)-VI 	<ol style="list-style-type: none"> 1. BC2.2 :Business Laws 2. BCH 4.5 : Entrepreneurship 3. CP 6.2: Business Environment
	Test	<ol style="list-style-type: none"> 1. The Test of the concern subject will be held on February 22nd 2017. 2. Test would be conducted on the concerned subject . 3. The Test of the concern subject will be held on February 23rd 2017. 	<ol style="list-style-type: none"> 1. B.Com. (P) - II 2. B.Com. (Hons) – IV 3. B.Com (P)-VI 	<ol style="list-style-type: none"> 1. BC 2.2 : Business Laws 2. BCH 4.5 : Entrepreneurship 3. CP 6.2: Business Environment
	Tutorials	<ol style="list-style-type: none"> 1.Detailed explanation to case studies vis-à-vis rules. 2. Discussion on current issues about environment. 	<ol style="list-style-type: none"> 1. B.Com (P) – II 2. B. Com (P) - VI 	<ol style="list-style-type: none"> 1. BC2.2 :Business Laws 2. CP 6.2: Business Environment

Month	Type of Class	Topics	Course	Paper Code/Name
March 2017	Theory	<p>1. 1.The sales of goods Act, 1930: the contract of sale, meaning and difference between sale and agreement to sell, conditions and warranties, transfer of ownerships in goods including sale by non-owners, performance of contract of sale.unpaid seller: meaning and rights of unpaid seller against the goods and the buyer. The Limited Liability Partnership, 2008: Salient features of LLP, difference between LLP and Partnership, LLP and Company, change of name, partners and their relations, extent and limitation of liability of LLP and partners, whistle blowing, taxation of LLP, conversion of LLP. winding up and dissolution</p> <p>2. Entrepreneurial Sustainability: The concept, role and functions of business incubators, angel investors, venture capital and private equity funds. Business Plan Preparations: Sources of business ideas and tests of feasibility. Significance of writing the business plan/ project proposal. Contents of business plan/ project proposal. Designing business processes, location, layout, operation, planning, and control; preparation of project report.</p> <p>3.Political Environment: The constitutional Environment, rationale and extent state intervention.</p>	<p>1. B.Com. (P) – II 2. B.Com. (Hons) – IV 3. B.Com (P)-VI</p>	<p>1. BC2.2 :Business Laws 2. BCH 4.5 : Entrepreneurship 3. CP 6.2: Business Environment</p>
	Practicals			
	Tutorials	<p>1. Case study on contractual capacity. Case study on legality of objects. 2. Discussion on state intervention.</p>	<p>1. B.Com (P) – II 2. B. Com (P) - VI</p>	<p>1. BC2.2 :Business Laws 2. CP 6.2: Business Environment</p>

	Assignment	1.1 st assignment collected and topic given for 2 nd assignment 2. Topics were allotted and collected of 1 st Assignment. 3.1 st assignment collected and topic given for 2 nd assignment	1. B.Com. (P) – II 2. B.Com. (Hons) – IV 3. B.Com (P)-VI	1. BC2.2 :Business Laws 2. BCH 4.5 : Entrepreneurship 3. CP 6.2: Business Environment
Month	Type of Class	Topics	Course	
April 2017	Theory	<p>1. The Information Technology Act 2000: definition under the Act, Digital signature, electronic governance, attribution, acknowledgement, and dispatch of electronic records, regulation of certifying authorities, digital signature certificate, duties of subscribers, penalties and adjudication, appellate tribunal, offences.</p> <p>2. Start up issues: Mobilizing resources for start-up. Accommodation and utilities. Preliminary, contracts with the vendors, suppliers, bankers, principal customers; contract management. Basic start-up problems.</p> <p>3. Revision</p>	1 B.Com. (P) - II 2. B.Com. (Hons) – IV 3. B.Com (P)-VI	1. BC2.2: Business Laws 2. BCH 4.5 : Entrepreneurship 3. CP 6.2: Business Environment
	Test	<p>1. The Test of the concern subject will be held on April 5th, 2017.</p> <p>2. Test would be conducted on the concerned subject .</p> <p>3. The Test of the concern subject will be held on April 6th ,2017.</p>	1. B.Com. (P) - II 2. B.Com. (Hons) – IV 3. B.Com (P)-VI	1. BC2.2 :Business Laws 2. BCH 4.5 : Entrepreneurship 3. CP 6.2: Business Environment
	Tutorials	<p>1. Group discussion on case laws</p> <p>2. Last years question paper discussion.</p>	1. B.Com (P) – II 2. B. Com (P) - VI	1. BC2.2 :Business Laws 2. CP 6.2: Business Environment



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
 (2016-2017) Even Semester

Name of the Faculty: Priyanka
Commerce

Department:

Semester : II/IV

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	1. (i)Introduction- meaning , objectives, cost concepts and classification, and role of a cost accountant in an organization. (ii) Elements of cost : Material and labour- FIFO, LIFO, Weighted Average, Treatment of material losses, and Accounting and control of labour cost. 2. Matrices types and applications of Matrices	1. B.com(H) IV semester 2. B.com II sem	1. cost accounting 2. Business Mathematics and statistics
	Tutorials /Practical:	Problems related with above topics		
FEBRUARY	Theory:	1. (i) Overheads- Classification ,allocation, apportionment, absorption of overhead. (ii) contract costing (iii)Reconciliation of cost and financial accounts 2. Differentiation –concepts and rules of differentiation	1. B.com (H) IV sem 2. B.com II sem	1 Cost accounting 2 Business mathematics and statistics

	Tutorials/Practical:			
	<u>Assignment</u>	1. Assignment from labour costing and introduction of costing		
MARCH	Theory:	1. (i) Process costing (ii) service costing (iii) unit or job costing 2. (i) Application of differentiation (ii) simple and compound interest	1. B.com (h) IV sem 2. B.com II sem	1. Cost accounting 2. Business mathematics and statistics
	Tutorials/Practical:	Problems related with above topics		
	<u>Test</u>	1. Test from overhead, material costing and contract costing 2. Test from application of matrices	1. B.com (H) IV sem 2. B.com II sem	1. Cost accounting 2. Business mathematics and statistics
APRIL	Theory:	1. (i) Integral and non integral system (ii) Revision 2. (i) nominal, effective and compounding and discounting of a sum using different types of differentiation (ii) Revision	1. B.com(H) IV sem 2. B.com II sem	1. Cost accounting 2. Business Mathematics and statistics
	Tutorials/Practical:	Problems related with above topics.		



SEMESTER WISE TEACHING PLAN (2016-2017)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Rajbir Kaur

Department: History

Semester: IV

Month		Topics	Course	Paper Code/ Name
JANUARY	Theory:	I. India in the mid 18th Century; Society, Economy, Polity	B.A. (Hons.) IIInd Year	Core - History of India – VI (c.1750-1857)
		I. Interpreting the 18th Century II. Emergence of Independent States & establishment of Colonial Power	B.A. (Prog.) IIInd Year	Core - History of India 1707-1950
		Delhi: Partition and After	B.A. (Hons.) IIIrd Year	DCC - Delhi: Modern
	Tutorials:	Introducing the course and its themes.		
		Discussion		
FEBRUARY	Theory:	II. Expansion and Consolidation of colonial Power III. Colonial state and Ideology	B.A. (Hons.) IIInd Year	Core - History of India – VI (c.1750-1857)
		III. Expansion & Consolidation of Colonial Power up to 1857 IV. Uprising of 1857: Causes, Nature & Aftermath V. Colonial Economy: Agriculture, Trade & Industry	B.A. (Prog.) IIInd Year	Core - History of India 1707-1950
		Delhi: Partition and After	B.A. (Hons.) IIIrd Year	DCC - Delhi: Modern

	Tutorials:	Discussion with the tutorial groups on the topics already taken up in the lectures		
	<u>Assignment:</u>	Critically analyse in the light of recent historiographical works on the 18th century, whether it is a 'dark age' or not, and whether it is a period of continuity or change.	B.A. (Hons.) IIInd Year	Core - History of India – VI (c.1750-1857)
		Explain the nature of British agrarian policy in India. How did it affect agrarian economy?	B.A. (Prog.) IIInd Year	Core - History of India 1707-1950
		How did the resettlement or rehabilitation after partition mark a change in the socio economic fabric of Delhi?	B.A. (Hons.) IIIrd Year	DCC - Delhi: Modern
MARCH	Theory:	IV. Rural Economy and Society V. Trade and Industry	B.A. (Hons.) IIInd Year	Core - History of India – VI (c.1750-1857)
		VI. Socio-Religious Movements in the 19th century VII. Emergence & Growth of Nationalism with focus on Gandhian Nationalism	B.A. (Prog.) IIInd Year	Core - History of India 1707-1950
		Violence, Dislocations, Expansions	B.A. (Hons.) IIIrd Year	DCC - Delhi: Modern
	Tutorials:	Discussion with regard to specific readings given for study		

		Discussion group for Hindi medium students		
	<u>Mid Term Test:</u>	Internal Class Test held on 22nd March 2017	B.A. (Hons.) IIInd Year	Core - History of India – VI (c.1750-1857)
		Internal Class Test held on 22nd March 2017	B.A. (Prog.) IIInd Year	Core - History of India 1707-1950
APRIL	Theory:	VI. Popular Resistance	B.A. (Hons.) IIInd Year	Core - History of India – VI (c.1750-1857)
		VIII. Communalism: Genesis, Growth and partition of India. IX. Advent of Freedom: Constituent Assembly, establishment of Republic	B.A. (Prog.) IIInd Year	Core - History of India 1707-1950
	Tutorials:	Violence, Dislocations, Expansions	B.A. (Hons.) IIIrd Year	DCC - Delhi: Modern
		Revision of the courses Discussion on previous year's question papers		



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
January - April, 2016

Name of the Faculty: NEERAJ SAHAY

Department: HISTORY

Semester: II

Month		Topics	Course	Paper Code/Name
JANUARY	Theory:	UNIT I 1. Introducing the early historical: Sources (600 BCE onwards) 2. Historiographical Trends: Early historic period with reference to state formation, literacy, forests	B.A. (Honours) I	Core Course III, Paper- History of India-II
		UNIT VI 1. Creative and Scientific Literature		
		UNIT I 1. Survey of the sources	B.A. (Programme) I	Core Paper II, Paper- History of India c. 300-1200
		UNIT II 1. Gupta and The Vakatakas: Administration, state, economy, society, religion and art		
	Practicals:	N/A		
	Tutorials:	Discussion on defining concepts of early historical, sources for Early India, References and question-answer sessions	B.A. (Honours) I	Core Course III, Paper- History of India-II
		Discussion of the sources, a background of Pre-Gupta situations and questions-answer sessions	B.A. (Programme) I	Core Paper II, Paper- History of India c. 300-1200

FEBRUARY	Theory:	<p>UNIT II</p> <ol style="list-style-type: none"> 1. Changing Political Formations (c. 600 BCE to c. 300CE): <i>Mahajanapadas: Monarchies and Gana/samghas</i> 2. The Mauryan Empire: Political Structure 3. Economy and Society (c.600 BCE to c. 300CE): Agrarian and Urban Economy with Reference to Indo-Roman Trade <p>UNIT III</p> <ol style="list-style-type: none"> 1. Changes in the Post-Gupta period and characterization of early medieval period <p>UNIT IV</p> <ol style="list-style-type: none"> 1. Vardhans, Pallavas and Chalukyas: Political and cultural developments 	B.A. (Honours) I	Core Course III, Paper- History of India-II
			B.A. (Programme) I	Core Paper II, Paper-History of India c. 300-1200
	Practicals:	N/A		
FEBRUARY	Tutorials:	<p>Discussions on early historical trajectories of political, economic and social developments. Questions-answer sessions</p>	B.A. (Honours) I	Core Course III, Paper- History of India-II
		<p>Discussion of Post-Gupta Developments and the theoretical models of Feudalism, Segmentary State and Integrative Polity. Questions-answer session</p>	B.A. (Programme) I	Core Paper II, Paper-History of India c. 300-1200
MARCH	Theory:	<p>UNIT II</p> <ol style="list-style-type: none"> 1. Mauryan Polity: <i>Dhamma</i> 2. Post Mauryan Polities: Kushanas and Satavahanas 3. Tamilakam <p>UNIT III and IV</p> <ol style="list-style-type: none"> 1. Society(c.600 BCE-300CE) and Social Stratification 2. Gupta Polity <p>UNIT V</p> <ol style="list-style-type: none"> 1. Palas, Pratiharas and Rashtrakutas: Introduction; tripartite conflict 	B.A. (Honours) I	Core Course III, Paper- History of India-II
			B.A. (Programme) I	Core Paper II, Paper-History of India c. 300-1200
Practicals:	N/A			

	Tutorials:	Questions-answer sessions Questions-answer sessions	B.A. (Honours) I B.A. (Programme) I	Core Course III, Paper- History of India-II Core Paper II, Paper-History of India c. 300-1200
	<u>Assignment</u>	1. Trace the social developments in Mauryan and Post Mauryan period <u>Any one of the following:</u> 1. Discuss the cultural developments during Gupta and Vakataka period. 2. Describe the ways in which Gupta period was a watershed between past and future polities. 3. Underlining the changes that occurred in early medieval centuries, critically discuss their characterization	B.A. (Honours) I B.A. (Programme) I	Core Course III, Paper- History of India-II Core Paper II, Paper-History of India c. 300-1200
	<u>Mid Term Test</u>			
APRIL	Theory:	UNIT IV 1. Defining Early Medieval 2. Post Gupta polities 3. Society and Economy UNIT V 1. Buddhism and Jainism 2. Consolidation of Brahmanical Tradition 3. Puranic Hinduism UNIT VI 1. Art and Architecture UNIT VI 1. Emergence of Rajput States in North India; foundations UNIT VII 1. Cholas State and administration, economy and culture UNIT VIII 1. Arabs, Ghazanavites, trans-regional exchnage	B.A. (Honours) I B.A. (Programme) I	Core Course III, Paper- History of India-II Core Paper II, Paper-History of India c. 300-1200



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Nuti Namita

Department: History

Semester: II/IV/VI

Even Semester

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	1.Key Concepts a) Development b) Globalization International Relations Post War Treaties and UNO Decolonization (Algeria and Indonesia)	General Elective 111 Semester 2	Paper -3 Issues In the Contemporary World: 1945-2000
	Theory	1. Transition from Feudalism to Capitalism [a] Crisis of the Tokugawa Bakuhan System [b] The Meiji Restoration; Its nature and significance, political reorganization, military reforms, Social and Cultural reforms (Bummei Kaika), Financial reforms, educational reforms 2. Meiji Constitution	B.A(Hons.) third year V1 Semester History	DSE X11 History of Modern Japan and Korea(1868-1950s)
	Tutorials	Discussion, Question answer session		
FEBRUARY	Theory:	Cold War and superpower rivalries (special focus on impact on Vietnam and Afghanistan) III. States and economies [a] United Kingdom: crisis of the welfare state [b] The Soviet Union: assessing the Socialist experiment;	General Elective 111 Semester 2	Paper -3 Issues In the Contemporary World: 1945-2000
	Theory	Japanese Imperialism (a) China (b)Manchuria (c) Korea (iii) Democracy and Militarism/Fascism (a) Popular/People' s Rights Movement (b) Nature of political parties (c) Rise of Militarism-Nature and significance	B.A(Hons.) third year V1 Semester History	DSE X11 History of Modern Japan and Korea(1868-1950s)
	Tutorials:	Assignment: GE-3 1. What id decolonization? Discuss the process in ALGERIA.		

	<u>Assignment:</u>	1. Discuss the internal and external causes for the crisis of the Tokugawa regime?		
MARCH	Theory:] South Africa and Sudan: from apartheid to reconciliation IV. New social movements [a] Ecological struggles: the Chipko Movement and struggles for the Amazon [b] Race, class and gender: movements in the USA [c] Struggles for democracy and rights in Myanmar	General Elective 111 Semester 2	Paper -3 Issues In the Contemporary World: 1945-2000
	Theory	d) Second World War; American occupation (e) Post-War Changes II Emergence of Modern Korea (a) The old order and Institutional Decay: Joseon Korea (b) Korea's interactions with the western powers and Korea's unequal treaties with Japan	B.A(Hons.) third year V1 Semester History	DSE X11 History of Modern Japan and Korea(1868-1950s)
	Tutorials:	Discussion, Question answer session		
	<u>Test</u>	<ol style="list-style-type: none"> 1. Discuss the Ecological struggles in the Brazil Forests of South America 2. Discuss the rise of Militarism in Japn? 		
APRIL	Theory:	Student movements of 1968 93 V. Aspects of culture [a] Sport culture and Nationalism/ Globalization [b] Commodity economy and consumption culture [c] Media in the digital age [d] Gender, family and sexual politics	General Elective 111 Semester 2	Paper -3 Issues In the Contemporary World: 1945-2000
	Theory	Attempts at social, political and economic reforms in Korea ; Japan's colonization: March First Movement and the growth of Korean nationalism; in situational transformation 1910-1945 ;Post-War Changes	B.A(Hons.) third year V1 Semester History	DSE X11 History of Modern Japan and Korea(1868-1950s)
	Tutorials:	Revision		

MAY	Theory:	EXAMS		
	Practicals:			
	Tutorials:			



SEMESTER WISE TEACHING PLAN (2016-2017)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Rajni Chandiwal/IV
Semester: II/IV/VI

Department: History

Month		Topics	Course	Paper Code/Name
JANUARY	Theory-1.	<ul style="list-style-type: none"> Defining Popular Culture and Understanding it Historically. 	Core Course	SEC Hons. Understanding Popular Culture-IV
	2.	<ul style="list-style-type: none"> Caste Community and Nation: Regional, Religious and Linguistic Identities, Assertions of Caste Identity- Sanskritisation and anti-Brahmanical Trends – Regional Variations. Economy and Social classes- Economic Critique of Colonial Rule, Rise of Modern Industry –Emergence of Capitalist and Working Class, Famines and Their Impacts. 	Core Course-X	History of India VIII (1857-1950)
	Practicals	NA		
	Tutorials	<ul style="list-style-type: none"> NA Discussion on the theme and reading of fiction of the same. 		

FEBRUARY	Theory:			
	1.	<ul style="list-style-type: none"> • Visual Expressions, Folk Art, Calendar Art, Photography 		
	2.	<ul style="list-style-type: none"> • Early Nationalism: Emergence of Congress, Moderates and Extremists, Swadesi and Revolutionary Movements • Emergence and Social Base of Gandhian Nationalism – Intellectual Foundation of Gandhian Nationalism, Rowlett, Khilafat and Non Cooperation Movements 		
	Practicals:	NA		
	Tutorials:	NA Screening a movie of the National Movement		

	<u>Assignment: 1</u>	<ul style="list-style-type: none"> • Presentations 		
	2.	<ul style="list-style-type: none"> • Non Cooperation and Anti caste Movement 		
MARCH	Theory:	<p>1</p> <ul style="list-style-type: none"> • Performance Theater ,Music • The Audio -Visual Cinema and television <p>2.</p> <ul style="list-style-type: none"> • Civil Disobedience Movements, Quit India Movements , Other Currents in Nationalism Ambedkar and Dalit Movement, • Singh Sabha and Akali Movement, Left Movements, Peasants and Workers, Tribal Movements, Communalism and Ideological Practices. 		
	Practicals:	NA		
	Tutorials:	Discussions /Presentations		
	<u>Test</u>	Project on various themes of the syllabi		
APRIL	Theory:	<p>1</p> <ul style="list-style-type: none"> • Fairs ,Festivals and Rituals <p>2.</p> <ul style="list-style-type: none"> • Partition • Independence and the New State 		

Practicals:	NA		
Tutorials:	Question Answer/Discussion		

MAY	Theory:	1 Popular Culture in Globalised World 2. Revision		
	Practicals:	NA		
	Tutorials:	Revision		



**SEMESTER WISE
TEACHING PLAN**

**SRI VENKATESWARA
January - MAY 2016-, 2017**

Name of the Faculty: Dr. Vandana Joshi

Department: History Semester: IV and VI 2017

Month		Topics	Course	Paper Code/Name
January	Theory:	<p>I. Varieties of Nationalisms and the remaking of states in the 19th and 20th centuries</p> <p>[a] Intellectual currents, popular movements and the formation of national identities in Germany, Italy and the Balkans.</p> <p>[b] Post-Unification: problems of state building in Germany and Italy</p> <p>II. Tsarist Russia and the coming of the Bolshevik revolution</p> <p>[a] Serfdom, Populism and Social Democracy</p> <p>[b] The Revolution of 1905; the revolutions of 1917: origins, visions, movements</p>	BA HON Core Course XIV	History of Modern Europe- II I.
		I. 17 th century European crisis: economic, social and political dimensions.	BA H Core Course	Rise of Modern West

		II. The English Revolution: major issues; political and intellectual currents.		
	Practicals:			
	Tutorials:	Assignment discussions and Presentations		
		Assignment discussions and Presentation		
February	Theory:	<p>III. Imperialism, war and crisis, c. 1880-1939</p> <p>[a] Theories and mechanisms of Imperialism</p> <p>[b] War of 1914-18: historiographical debates; developments leading to the War; power blocs and alliances</p>	BA HON Core Course XIV	History of Modern Europe- II I.
		<p>III. Rise of modern science in relation to European society from the Renaissance to the 17th century.</p> <p>IV. Mercantilism and European economics; 17th and 18th centuries.</p> <p>.</p>	BA H	Rise of Modern West
	Practicals:			
	Tutorials:			

March	Theory:	[c] Fascism and Nazism: origins and forms; nature of the fascist state	BA HON Core Course XIV	History of Modern Europe- II
		V. European politics in the 18 th century – parliamentary monarchy; patterns of Absolutism in Europe.	BA H	Rise of Modern West
	Practicals:			
		Assignment discussions and presentations		
	Tutorials:	Assignment discussions and presentations		
	<u>Assignment</u>			
April	Theory	IV. Cultural and intellectual developments since c.1850 [a] Creation of a new public sphere, print culture, mass education and the extension of literacy [b] Creation of new cultural forms: romanticism to abstract art	BA HON Core Course XIV	History of Modern Europe- II

		[c] Institutionalization of disciplines: history, anthropology, psychology		
		VI. Political and economic issues in the American Revolution.	BA H	Rise of Modern West
	Practicals:			
	Tutorials:	Assignment discussions and presentations		
		Assignment discussions and presentations		
	<u>Mid Term Test</u>			
May	Theory:	[d] Culture and empire: race, gender and Imperialism; Orientalism	BA HON Core Course XIV	History of Modern Europe- II
		VII. Preludes to the Industrial Revolution		

	Practicals:			
	Tutorials:	Assignment discussions and presentations		
		Assignment discussions and presentations		



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr M PADMA SURESH

Department: ECONOMICS

Semester: IV

Month		Topics	Course	Paper Code/ Name
JANUARY	Theory	Nature and scope of econometrics. Statistical inference-normal chi - square, t and F distributions. Testing of hypothesis. Type1 and Type 2 errors, Power of a test. Two sample tests of hypothesis.	BA(Hons)	Introductory Econometrics
	Tutorials	Problems from Gujarati and Devore		
FEBRUARY	Theory:	Simple linear regression-two variable case. Estimation-OLS, Testing of hypothesis, Gauss Markov Theorem. Forecasting, Scaling and units.		
	Tutorials:	End chapter questions from Gujarati, Dougherty		
MARCH	Theory:	Multiple Regression-estimation and inference, Functional forms, Qualitative explanatory variables.		
	Tutorials:	Numericals from Gujarati		
APRIL	Theory:	Violations of Classical OLS assumptions-Multicollinearity, Heteroscedasticity and Autocorrelation. Model		
	Tutorials:	End chapter exercises from Gujarati and revision from previous question papers		



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. M PADMA SURESH

Department: ECONOMICS

Semester: VI /2016-17

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Matrix approach to k-variable regression model.	BA(Hons) Economics	Applied Econometrics
	Tutorials	Exercises from Basic Econometrics, 4 th edition		
FEBRUARY	Theory:	Stages in empirical econometric research. Regression Diagnostics- Multicollinearity, Heteroscedasticity, Autocorrelation. Functional forms and Dummy variables.		
	Practicals:	Use of GRETL in econometrics by using data and examples from EBF.		
	Tutorials:	Review of essential of econometrics		
MARCH	Theory:	Model specification-Ramsey RESET Test, LM Test, DW test. Measurement errors, AIC, SIC, Outliers, Leverage etc. Non normal errors.		
	Practicals:	GRETL exercises from EBE for specification and diagnostics. Assignment of Project and submission of proposal		
	Tutorials:	Basic econometrics, Gujarati and Wooldridge		
APRIL	Theory:	Advanced topics in regression analysis-Dynamic econometric models, Panel data and Instrumental Variable estimation		
	Practicals:	Submission of Projects		
	Tutorials:	Basic econometrics by Gujarati and Wooldridge		



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: KRISHNAKUMAR S

Department: ECONOMICS

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Introduction to the Growth Theory. Neoclassical Solow model and its assumptions. Golden Rule Law of Accumulation. Harrod-Domar model and the instability problem	BA(Hons) Sem IV	Intermediate Macroeconomics-II
	Practicals			
	Tutorials	Assignments on neoclassical Solow growth model from Mankiw workbook		
FEBRUARY	Theory:	Theories of consumption: absolute income hypothesis Duesenbery relative income hypothesis, Permanent Income Hypothesis, Modigliani Brumberg approach. Fisher's intertemporal model, Hall model	BA(Hons) Sem IV	Intermediate Macroeconomics-II
	Practicals:			
	Tutorials:	Economics Growth tutorials and tests. some new readings		
MARCH	Theory:	Theories of investment. Jorgenson's neoclassical theory of investment, Tobin's q theory, residential investment,	BA(Hons) Sem IV	Intermediate Macroeconomics-II
		Inventory management. Theories of demand for money		
	Practicals:			

	Tutorials:	Problems on inter-temporal approach. Discussion of some articles.		
	<u>Assignment:</u>			
APRIL	Theory:	Critical rate of interest. Regressive expectations model. Baumol Tobin approach. Tobin's liquidity preference as behaviour towards risk. Fiscal and Monetary Policy Debt stabilization. Growth in Jones-Romer approach	BA(Hons) Sem IV	Intermediate Macroeconomics-II
	Practicals:			
	Tutorials:	Problems on debt stabilization, Taylor's rule		
	<u>Test</u>			
MAY	Theory:	Economics of ideas. Miscellaneous. Revision	BA(Hons) Sem IV	Intermediate Macroeconomics-II
	Practicals:			
	Tutorials:			



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: KRISHNAKUMAR S

Department: ECONOMICS

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Ricardian model of comparative advantage. H-O-S factor endowments model, specific factors model. Standard trade	BA(Hons) Economics Sem VI	International Economics
	Practicals			
	Tutorials	Problems on Ricardian model and modeling with specific factor model		
FEBRUARY	Theory:	New trade theories. intra-industry trade. Imperfect competition and trade. Dumping and reciprocal dumping. Externalities and decreasing cost curve. Industrial district. Instruments of trade policy. Static welfare analysis of tariffs, subsidies and quotas. Political economy of trade policy.	BA(Hons) Economics Sem VI	International Economics
	Practicals:			
	Tutorials:	Problem set on welfare calculation of tariffs and subsidies.		
MARCH	Theory:	Brander Spencer strategic trade policy. Optimum tariff. Trade creation and trade diversion. WTO, RTAs, FTAs.	BA(Hons) Economics Sem VI	International Economics
		Introduction to Open Economy Macroeconomics. Uncovered and covered interest parity theories. Nominal and real exchange rates.		
	Practicals:			

	Tutorials:	Trade creation, trade diversion. Problems of instruments of trade policy		
	<u>Assignment:</u>	Project on various topics on international trade like WTO disputes, RTAs, international economics laws, migration, UNCTAD reports, WIR Reports		
APRIL	Theory:	Permanent and temporary fiscal expansion. Permanent and temporary monetary expansion under the DD-AA framework.	BA(Hons) Economics Sem VI	International Economics
	Practicals:			
	Tutorials:	Small macro models on the basis of DD AA framework.		
	<u>Test</u>	Test on the basis of four chapters: two from each section		
May	Theory:	Financial Globalization. Regulation of banking. Revision	BA(Hons) Economics Sem VI	International Economics
	Practicals:			
	Tutorials:	Revision of the trade theory numerical from back of text.		



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: BRAHMAREDDY D

Department: ECONOMICS

Semester: II/IV

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	I. Introduction to Macroeconomics & National Income Accounting II. Money 1. The Key to Budget Documents 2. Let's Talk About Budget. Centre for Budget and Governance	B.A. (H)-I Economics <hr/> B.A. (H)-II Economics	Introductory Macroeconomics <hr/> Contemporary Economic Issues
	Tutorials	1. Introduction to National Income Accounting 2. Money Project Discussion	B.A. (H)-I Economics <hr/> B.A. (H)-II Economics	Introductory Macroeconomics <hr/> Contemporary Economic Issues
FEBRUARY	Theory:	I. Money II. Inflation 3. Pranab Mukherjee (2012), "Budget Making", in K. Basu and A. Maertens (eds), <i>The New Oxford Companion to Economics in India</i> , OUP. 4. Dipak Dasgupta and Supriyo De (2012), "Fiscal Deficit", in Basu and Maertens. 5. Uma Kapila (2016),	B.A. (H)-I Economics <hr/> B.A. (H)-II Economics	Introductory Macroeconomics <hr/> Contemporary Economic Issues
	Practicals:			
	Tutorials:	I. Money II. Inflation Test: 6 th March 2017	B.A. (H)-I Economics <hr/> B.A. (H)-II Economics	Introductory Macroeconomics <hr/> Contemporary Economic Issues

MARCH	Theory:	I. Inflation II. Closed Economy in the Short-run <hr/> 7. The Fourteenth Finance	<u>B.A. (H)-I Economics</u> B.A. (H)-II Economics	<u>Introductory Macroeconomics</u> Contemporary Economic Issues
	Practicals:			
	Tutorials:	I. Inflation, Unemployment and Expectations II. Open Economy	<u>B.A. (H)-I Economics</u> B.A. (H)-II Economics	<u>Introductory Macroeconomics</u> Contemporary Economic Issues
	<u>TEST:</u> <hr/> Project Presentation	25 th March 27 th March to 1 st April		
APRIL	Theory:	I. Closed Economy in the Short-run <hr/> 10. Economic Survey (2015-16):	<u>B.A. (H)-I Economics</u> B.A. (H)-II Economics	<u>Introductory Macroeconomics</u> Contemporary Economic Issues
	Practicals:			
	Tutorials:	I. Closed Economy in the Short-Run <hr/> Project Discussion	<u>B.A. (H)-I Economics</u> B.A. (H)-II Economics	<u>Introductory Macroeconomics</u> Contemporary Economic Issues
	<u>Test</u> <hr/> <u>Project Presentation</u>	8 th April 2017 <hr/> 18-20 th April	<u>B.A. (H)-I Economics</u> B.A. (H)-II Economics	<u>Introductory Macroeconomics</u> Contemporary Economic Issues



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: DR. SHAILAJA S THAKUR

Department: ECONOMICS

Semester: II/IV/VI

Month		Topics	Course	Paper
JANUARY	Theory	<p>Topic 1: Population growth and economic development (Ch. 9- dr*)</p> <p>Topic 2: rural- urban interaction (Ch.10- dr- introduction to Lewis model)</p> <p>Discussion on Keynesian macroeconomics- leading to extended Keynesian model</p>	<p>BA (Hons) Economics Sem VI</p> <p>BA(Prog) Sem IV</p>	<p>Paper 24/ Development Theory and Experience-II</p> <p>Core Economics IV/ Principles of Macroeconomics</p>
	Tutorials	<p>Concepts of Demography studies- death rate, birth rate, total fertility rate); supply side and demand side arguments of population control</p> <p>Comparison between the simple and extended Keynesian models; discussion on different schools of macroeconomic thought</p>		<p>Paper 24/ Development Theory and Experience-II</p> <p>Core Economics IV/ Principles of Macroeconomics</p>
FEBRUARY	Theory:	<p>Topic 1: Lewis model, Harris-Todaro model</p> <p>Topic 2- rural markets (introduction- Ch. 11- dr); land- (Ch.12- dr); Labour (Ch. 13- dr)</p> <p>Topic 1: IS-LM model; fiscal and monetary policy; policy mixes and their impact on income, consumption, rate of Interest and investment</p>		<p>Paper 24/ Development Theory and Experience-II</p> <p>Core Economics IV/ Principles of Macroeconomics</p>

	Tutorials:	Discussions on topic 1. Relating the Lewis model and H-T model to real life migration experience of construction workers Practice exercises for students in IS-LM analysis		Paper 24/ Development Theory and Experience-II Core Economics IV/ Principles of Macroeconomics
	<u>Assignment:</u>	DTE: Test 1: Topic 1 (Ch. 9, 10-dr) Macroeconomics: test 1: extended Keynesian model – topic 1		
MARCH	Theory:	Topic 2 (Contd.) - Credit (Ch.14-Dr) Topic 5- Environment and Development -Partha Dasgupta, Meier and Rauch Labour Market, Open Economy Macroeconomics		Paper 24/ Development Theory and Experience-II Core Economics IV/ Principles of Macroeconomics
	Tutorials:	Discussion of questions from topic 2. Discussion of back of the chapter questions.		Paper 24/ Development Theory and Experience-II Core Economics IV/ Principles of Macroeconomics
	<u>Test</u>	Dte: test on topic 2 Macro- test on ad/ as, prices, labour market and open economy macroeconomics		

APRIL	Theory:	Topic 5: Charles Kolstad (2 chapters) Topic 6- Globalization		Paper 24/ Development Theory and Experience-II
		Revision exercises on the entire course		Core Economics IV/ Principles of Macroeconomics
	Tutorials:	Discussions on financial crisis in the developed world, concept of shadow banking, credit default swaps, collateral debt obligations		Paper 24/ Development Theory and Experience-II
		Revision and clarifications covering the entire course		Core Economics IV/ Principles of Macroeconomics
MAY	Theory:	Final examinations		
	Practical:			
	Tutorials:			

* Development Economics- Prof. Debraj Ray



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: N. KALITHASAMMAL

Department: Economics

Semester: II

Month		Topics	Course	Paper Name/ Code
January 2016-17	Theory	Concepts of scarcity and choice , demand and supply, determination and movements in supply, and demand curves, elasticity, applications.	B.A (Prog.) I yr.	Principles of Microeconomics
	Tutorials	Equilibrium and determination of demand and supply		
February	Theory:	Consumers theory and cardinal and ICurves, budget line		
	Tutorials:	Derivation of PCC,ICC,IC and budget line and consumer's		
March	Theory:	Market structure, concepts of PC market, derivation of MR,AR AND TR, equilibrium, long run industry's supply curve.		

	Tutorials:	Features of pc market, derivation of long run short run equilibrium, long run supply curve of an industry, allocative efficiency.		
	<u>Assignment :</u>	TWO TESTS ARE GOING TO CONDUCT ACCORDING TO		
April	Theory:	Production and cost, iso cost and quants, returns to scale, maximization, equilibrium.		
	Tutorials:	Technological changes, cost minimization and profit maximization.		
		Finalization of internal assessments.		



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: N. KALITHASAMMAL

Department: Economics

Semester: VI

Month		Topics	Course	Paper Name/
JANUARY	Theory	Gains of international trade, advantages, comparative and absolute advantage, PPC, offer Curves.	B. Com (Prog.)	International trade
	Tutorials	PPC, Advantages of trade, Terms of trade.		
FEBRUARY	Theory:	Frame work and equilibrium of Heckscher and Ohlin theorem.		
	Tutorials:	Heckscher Ohlin theorem.		
MARCH	Theory:	Policy of international trade, tariff and trade, NTB, Stolper and Samuelson, and free trade and protection.		
	Tutorials:	Free trade and protection, NTB, Policy of IT.		
	Assignment:	Both Assignment and Test Taken.		

APRIL, MAY	Theory:	GATT and WTO, WTO and developing countries, trade rounds.		
	Tutorials:	WTO and GATT.		
	Test:	Group assignments and test taken.		



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Meenakshi Sharma

Department: Economics

Semester: II

Month		Topics	Course	Paper Code/Name
JANUARY	Theory:	Linear algebra Vector spaces: algebraic and geometric properties, scalar products, norms, orthogonality; linear transformations; systems of linear equations: properties of their solution sets; determinants: characterization, properties and applications.	B.A. (H) Economics	Mathematical Methods for Economics-II
	Tutorials:	Linear algebra		
FEBRUARY	Theory:	Functions of several real variables Geometric representations: graphs and level curves; differentiable functions: characterizations, properties with respect to various operations and applications; second order derivatives: properties and applications; the implicit function theorem, and application to comparative statics problems; homogeneous and homothetic functions: characterizations and applications.	B.A. (H) Economics	Mathematical Methods for Economics-II
	Tutorials:	Functions of several real variables		
	TEST 1	Linear algebra		

MARCH	Theory:	Multi-variable optimization Convex sets; geometric properties of functions: convex functions, their characterizations, properties and applications; further geometric properties of functions: quasiconvex functions, their characterizations, properties and applications; unconstrained optimization: geometric characterizations, characterizations using calculus and applications; constrained optimization with equality constraints: geometric characterizations, Lagrange characterization using calculus and applications; properties of value function: envelope theorem and applications.	B.A. (H) Economics	Mathematical Methods for Economics-II
	Tutorials:	Multi-variable optimization		
APRIL	Theory:	Differential Equations First-order differential equations (chapter 21.1); qualitative theory and stability (chapter 21.7).	B.A. (H) Economics	Mathematical Methods for Economics-II
	Tutorials:	Multi-variable optimization		
	<u>Test 2</u>	Functions of several real variables and Multivariable optimization		

Semester : IV, B.A. (H) Economics

Month		Topics	Course	Paper Code/Name
JANUARY	Theory:	<p>Market Structure: Monopoly Price discrimination and regulation, Two part tariff. Welfare comparison with perfect competition. Synder& Nicholson</p> <p>Game Theory Strategic form game swith perfect information; Mixed strategy, Extensive form games, Weak & strict dominance. Synder& Nicholson and Osborne.</p>	B.A (H) Economics	Intermediate Microeconomics II
	Tutorials:	Market Structure (Monopoly) and Game Theory.		
FEBRUARY	Theory:	<p>Imperfect competition; Bertrand, Cournot and Stackelberg models; Price leadership; Hotelling’s beach model. Synder& Nicholson</p> <p>General equilibrium in pure exchange and production; Fundamental welfare theorems and their implications. Hal.R. Varain and Synder & Nicholson.</p>	B.A (H) Economics	Intermediate Microeconomics II
	Tutorials:	Imperfect competition and Exchange		
MARCH	Theory:	Welfare: Social welfare functions, Arrow’s Impossibility Theorem, Paradox of voting, Median Voter Theorem.	B.A (H) Economics	

		Externality: Consumption & production externality, Property Rights and Coase Theorem, Tragedy of Commons. Hal.R. Varain		
	Tutorials:	Welfare and Externality.		Intermediate Microeconomics II
	<u>Test</u>	Test-I Monopoly and Game Theory.		
APRIL	Theory:	Public Goods: definition & classification, efficiency criteria, free riding problem. Hal.R. Varain	B.A (H) Economics	Intermediate Microeconomics II
	Tutorials:	Public Goods and Asymmetric Information.		
	<u>Test</u>	Test-II Exchange and Welfare		



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr. D. Appala Naidu

Department: ECONOMICS

Semester: II

Month		Topics	Course	Paper Code/Name
JANUARY	Theory:	Unit-1 Basic issues studied in macroeconomics; measurement of gross domestic product; income, expenditure and the circular flow; real versus nominal	Introductory Macroeconomics	GE –Core Economic Course 3
	Practical:	-----		
	Tutorials:	Unit-1 National Income concepts, measurement of gross domestic product; income, expenditure and the circular flow; real versus nominal GDP; price indices.		
FEBRUARY	Theory:	Unit-4 Classical and Keynesian systems; simple Keynesian	Introductory Macroeconomics	GE –Core Economic
	Practical:	-----		
	Tutorials:	Unit-4 Simple Keynesian model of income determination, ISLM model; fiscal and monetary multipliers.		
MARCH	Theory:	Unit-2 Functions of money; quantity theory of money; determination of money supply	Introductory Macroeconomics	GE –Core Economic Course 3
	Practical:	-----		
	Tutorials:	Determination of money supply and demand		

	<u>Test: 1</u>	Unit-1: Basic issues studied in macroeconomics; measurement of gross domestic product; income, expenditure and the circular flow; real versus nominal GDP; price indices. Unit-4: Classical and Keynesian systems; simple Keynesian model of income determination. ISLM model; fiscal and monetary multipliers.		
APRIL	Theory:	Unit-2 credit creation; tools of monetary policy Unit-3 Inflation and its social costs, hyperinflation.	Introductory Macroeconomics	GE –Core Economic Course 3
	Practical:	-----		
	Tutorials:	Unit-3 Inflation and its social costs, hyperinflation.		
	<u>Test :2</u>	Unit-2 Functions of money; quantity theory of money; determination of money supply and demand.		



SEMESTER WISE TEACHING PLAN (2016-17)
SRI VENKATESWARA COLLEGE

Name of the Faculty: Dr.D.Appala Naidu

Department: ECONOMICS

Semester : VI

,Discipline Centered Course(DCC)-(Hon) PRINCIPLES OF ECONOMICS.

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Unit-6 Macroeconomic Concepts and Measurement Concepts of GDP and National Income, Nominal and Real GDP. Unit-7 The Simple Keynesian Model Aggregate Expenditure and equilibrium output, Fiscal Policy at work-the multiplier effect.	Principles of Economics	Concurrent Course
	Practical	-----		
	Tutorials	Unit-6 Macroeconomic Concepts and Measurement Concepts of GDP and National Income, Nominal and Real GDP.		
FEBRUARY	Theory:	Unit-8 Money and Monetary Institutions The nature of money; credit creation. The Demand for Money, Monetary Policy. Unit-9 International Trade Gains from Trade: Terms of Trade	Principles of Economics	Concurrent Course
	Tutorials	Unit-8 Money and Monetary Institutions The nature of money; credit creation. The Demand for Money, Monetary Policy. Unit-9 International Trade Gains from Trade: Terms of Trade		

MARCH	Theory:	<p>Unit-1 Exploring the subject matter of economics Why study economics? Scope and Method of Economics; The economic Problem: Scarcity and Choice. Reading and working with Graphs. Positive and Normative economics. Microeconomics and macroeconomics.</p> <p>Unit-2 Supply and Demand: Markets and Prices Markets and Competitions: Determinants of demand and supply; How prices allocate resources. Elasticity and its applications; Controls on Prices</p>	Principles of Economics	Concurrent Course
	Practical:	-----		
	Tutorials:	<p>Unit-2 Supply and Demand: Markets and Prices Markets and Competitions: Determinants of demand and supply; How prices allocate resources. Elasticity and its applications; Controls on Prices</p>		
	Test: 1	<p>Unit-6 Macroeconomic Concepts and Measurement Concepts of GDP and National Income, Nominal and Real GDP.</p> <p>Unit-7 The Simple Keynesian Model Aggregate Expenditure and equilibrium output, Fiscal Policy at work-the multiplier effect.</p> <p>Unit-8 Money and Monetary Institutions The nature of money; credit creation. The Demand for Money, Monetary Policy.</p> <p>Unit-9 International Trade Gains from Trade: Terms of Trade</p>		

APRIL	Theory:	<p>Unit-3 What Determines Demand Marginal Utility Theory, Indifference Theory, Income and Substitution Effects</p> <p>Unit-4 Firms, Cost and Profits The Production Process: Firms; Costs and Output decisions in the short and the long run.</p>	Principles of Economics	Concurrent Course
	Practical:	-----		
	Tutorials:	<p>Unit-4 Firms, Cost and Profits The Production Process: Firms; Costs and Output decisions in the short and the long run.</p>		
	Test: 1	<p>Unit-1 Exploring the subject matter of economics, Why study economics? Scope and Method of Economics; The economic Problem: Scarcity and Choice. Reading and working with Graphs. Positive and Normative economics. Microeconomics and macroeconomics.</p> <p>Unit-2 Supply and Demand: Markets and Prices. Markets and Competitions: Determinants of demand and supply; How prices allocate resources. Elasticity and its applications; Controls on Prices</p> <p>Unit-3 What Determines Demand Marginal Utility Theory, Indifference Theory, Income and Substitution Effects</p> <p>Unit-4 Firms, Cost and Profits The Production Process: Firms; Costs and Output decisions in the short and the long run.</p>		



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty : Dr. S. Vivekananthan

Department : Tamil

CBCS Semester : II

Month	Theory/Practical	Topics	Course	Paper code/Name
July	Theory	Study of Important Authors: Tamil Introduction of Mudiyarasan and contemporary writers	B.A Prog Tamil DSC	62081210
August	Theory	Study of Important Authors: Tamil life of Mudiyarasan	B.A Prog Tamil DSC	62081210
September	Theory Assignment	Study of Important Authors: Tamil Creative style of Mudiyarasan Life History of Mudiyarasan	B.A Prog Tamil DSC	62081210
October	Theory Mid-Term Test	Study of Important Authors: Tamil Mudiyarasan Kaappiya Punaithiran	B.A Prog Tamil DSC	62081210
November	Theory	Study of Important Authors: Tamil Art and Ideology of Mudiyarasan	B.A Prog Tamil DSC	62081210



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty : Dr. S. SEENIVASAN

Department : Tamil

CBCS Semester : II

Month	Theory/Practical	Topics	Course	Paper code/Name
July	Theory	Study of Important Authors: Tamil Introduction of EVR. Periyar and contemporary Social Reformers	B.A Prog Tamil DSC	62081210
August	Theory	Study of Important Authors: Tamil Social and Political life of EVR. Periyar	B.A Prog Tamil DSC	62081210
September	Theory Assignment	Study of Important Authors: Tamil Journalistic style of EVR Periyar Political and Social Ideology of Periyar	B.A Prog Tamil DSC	62081210
October	Theory Mid-Term Test	Study of Important Authors: Tamil Views & Thoughts of EVR. Periyar	B.A Prog Tamil DSC	62081210
November	Theory	Study of Important Authors: Tamil Fight against Casitism in Vaikkam, Kerala	B.A Prog Tamil DSC	62081210



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty : Dr. S. Vivekananthan

Department : Tamil

CBCS Semester : IV

Month	Theory/Practical	Topics	Course	Paper code/Name
July	Theory	Study of Important Texts: Nedunalvaadai Concept of Akam and Puram	B.A Prog Tamil DSC	62081436
August	Theory	Study of Important Texts: Nedunalvaadai Introduction of Sangam Literature and Nedunalvaadai	B.A Prog Tamil DSC	62081436
September	Theory Assignment	Study of Important Texts: Nedunalvaadai Life style of Forest land (Mullai) Expressions of the Characters and culture, custom of the people	B.A Prog Tamil DSC	62081436
October	Theory Mid-Term Test	Study of Important Texts: Nedunalvaadai Nedunalvaadai in Sangam Literature	B.A Prog Tamil DSC	62081436
November	Theory	Study of Important Texts: Nedunalvaadai Description of Country, Nature, Fort, Palace and War field	B.A Prog Tamil DSC	62081436



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE

Name of the Faculty : Dr. S. SEENIVASAN

Department : Tamil

CBCS Semester : IV

Month	Theory/Practical	Topics	Course	Paper code/Name
July	Theory	Study of Important Texts: Kuyilpaattu Introduction of Subramania Bharathi and contemporary Poets	B.A Prog Tamil DSC	62081436
August	Theory	Study of Important Texts: Kuyilpaattu Creative Style and Techniques of Kuyilpaattu	B.A Prog Tamil DSC	62081436
September	Theory Assignment	Study of Important Texts: Kuyilpaattu Bharathiyin Kuyilpaattu Punaithiran. Emotions and Expressions of Characters	B.A Prog Tamil DSC	62081436
October	Theory Mid-Term Test	Study of Important Texts: Kuyilpaattu Views & Description of Nature in Kuyilpaattu	B.A Prog Tamil DSC	62081436
November	Theory	Study of Important Texts: Kuyilpaattu Kuyilpaattu in Barathi's Epics	B.A Prog Tamil DSC	62081436



**SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE**

Name of the Faculty : Dr. S. Vivekananthan

Department : Tamil

CBCS Semester : VI

Month	Theory/Practical	Topics	Course	Paper code/Name
July	Theory	Selected Texts: Poetry & Play : Kudumba Vilakku Life history of Bharathi Dasan and contemporary Poets	B.A Prog Tamil DSE	62087640
August	Theory	Selected Texts: Poetry & Play : Kudumba Vilakku Kudumba Vilakku in Modern Epic	B.A Prog Tamil DSE	62087640
September	Theory Assignment	Selected Texts: Poetry & Play : Kudumba Vilakku Study of culture and customs in Kudumba Vilakku	B.A Prog Tamil DSE	62087640
October	Theory Mid-Term Test	Selected Texts: Poetry & Play : Kudumba Vilakku Study of Characters in Kudumba Vilakku	B.A Prog Tamil DSE	62087640
November	Theory	Selected Texts: Poetry & Play : Kudumba Vilakku Expressions of the Women Characters	B.A Prog Tamil DSE	62087640



**SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE**

Name of the Faculty : Dr. S. SEENIVASAN

Department : Tamil

CBCS Semester : VI

Month	Theory/Practical	Topics	Course	Paper code/Name
July	Theory	Selected Texts: Poetry & Play : Durkkira Avalam Outline of modern street play	B.A Prog Tamil DSE	62087640
August	Theory	Selected Texts: Poetry & Play : Durkkira Avalam Durkkira Avalam in Modern Tamil Plays	B.A Prog Tamil DSE	62087640
September	Theory Assignment	Selected Texts: Poetry & Play : Durkkira Avalam Study of Characters in Durkkira avalam Techniques of Tamil Play and Durkkira Avalam	B.A Prog Tamil DSE	62087640
October	Theory Mid-Term Test	Selected Texts: Poetry & Play : Durkkira Avalam Study of Social conflicts in Durkkira Avalam	B.A Prog Tamil DSE	62087640
November	Theory	Selected Texts: Poetry & Play : Durkkira Avalam Language and Techniques in Durkkira Avalam	B.A Prog Tamil DSE	62087640



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
 Odd Semester 2016-17

Name of the Faculty: Dr. B. R. Gupta

Department: Statistics

Semester: II/IV/VI

Month		Topics	Course	Paper
JANUARY	Theory	Introduction to quality dimensions of quality, Its concept, application and importance, Process and product control, Seven tools of SPC, Chance and Assignable causes of quality variation.	B.Sc. (H) Statistics	STAT-C-403: Statistical Quality Control
	Practicals			
	Tutorials			
FEBRUAR Y	Theory	Statistical Control Charts- Statistical basis of 3- σ Control charts, Control charts for variables: \bar{X} bar & R-chart, \bar{X} bar & s-chart. Rational Sub-grouping, Revised and Modified Control Limits, Control charts for attributes: np-chart, p-chart, c-chart and u-chart. Comparison between control charts for variables and control charts for attributes. Analysis of patterns on control chart, estimation of process capability	B.Sc. (H) Statistics	STAT-C-403: Statistical Quality Control
	Practicals	Construction and interpretation of \bar{X} &R, \bar{X} &s, np, p, c and u charts.	B.Sc. (H) Statistics	STAT-C-403: Statistical Quality Control
	Tutorials			
March	Theory	Acceptance sampling plan: Principle of acceptance sampling plans. Single and Double sampling plan their OC, AQL, LTPD, AOQ, AOQL, ASN, ATI functions with graphical interpretation, use and interpretation of Dodge and Romig's sampling inspection plan tables, Index Numbers: Definition, construction of index numbers and problems thereof for weighted and unweighted index numbers.	B.Sc. (H) Statistics	STAT-C-403: Statistical Quality Control
	Practicals	Single sample inspection plan: Construction and interpretation of OC, AQL, LTPD, ASN, ATI, AOQ, AOQL curves, Calculation of process capability and comparison of 3-sigma control limits with specification limits, Calculate price and quantity index numbers using simple and weighted average of price relatives.	B.Sc. (H) Statistics	STAT-C-403: Statistical Quality Control

	Tutorials			
	Assignment	will be based on Unsolved problems of SQC	B.Sc. (H) Statistics	STAT-C-403: Statistical Quality Control
	Test	Syllabus Covered up to midterm break	B.Sc. (H) Statistics	STAT-C-403: Statistical Quality Control
April	Theory	Laspeyre's, Paasche's, Edgeworth-Marshall and Fisher's. Average of Price Relatives, Chain index numbers, conversion of fixed based to chain based index numbers and vice-versa. Criteria of Good Index Numbers. Consumer price index numbers, Base shifting, splicing and deflating of index numbers.	B.Sc. (H) Statistics	STAT-C-403: Statistical Quality Control
	Practicals	To Calculate the Chain Base Index numbers, To Calculate the Consumer Price Index numbers, Practical based on shifting of base, splicing and deflating of index numbers.	B.Sc. (H) Statistics	STAT-C-403: Statistical Quality Control
	Tutorials			



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
 Odd Semester 2016-17

Name of the Faculty: Dr. Archana Bansal

Department: Statistics

Semester: II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUARY	Theory	Experimental designs: Role, historical perspective, terminology, experimental error, basic principles, uniformity trials, fertility contour maps, choice of size and shape of plots and blocks, Basic Designs: Completely Randomized Design (CRD), Randomized Block Design (RBD), Latin Square Design (LSD)-layout, model, statistical analysis, advantages and their applications, Relative efficiencies of RBD compared to CRD, LSD compared to CRD, LSD compared to RBD taking rows as blocks, LSD compared to RBD taking columns as blocks. Practical work, Missing Plot technique (for both RBD and LSD) for one missing observation only, Variance of the difference between two estimated treatment effects out of which one has the missing observation (for both RBD and LSD)	B.Sc. (H) Statistics	STAT-C-601: Design of Experiments
	Practicals	Analysis of a CRD with equal and unequal replicates, Analysis of RBD, Analysis of LSD, Analysis of RBD with one missing observation, Analysis of LSD with one missing observation.	B.Sc. (H) Statistics	STAT-C-601: Design of Experiments
	Tutorials			
February	Theory	Balanced Incomplete Block Design (BIBD): parameters, relationships among its parameters, incidence matrix and its properties, Intra Block analysis, Variance of the difference between two estimated treatment effects, Relative efficiency of BIBD compared to RBD, Definition and Properties of Symmetric BIBD, Resolvable BIBD, Affine Resolvable BIBD, Construction of complimentary BIBD, Residual BIBD, Dual BIBD, Derived BIBD.	B.Sc. (H) Statistics	STAT-C-601: Design of Experiments
	Practicals	Intra block analysis of BIBD, Intra block analysis of a symmetric BIBD.	B.Sc. (H) Statistics	STAT-C-601: Design of Experiments

March	Theory	Factorial Experiments: Advantages over simple experiments, notations, concepts of main effects and interaction effects. 2^n Factorial Designs -Standard order for treatment combinations, Main effects and interactions, Yates' Algorithm, Design and analysis, 3^n Factorial Designs - Standard order for treatment combinations, Main effects and interactions, Yates' Algorithm Design and analysis ($n=2$), Total and Partial confounding- Confounding $2n$ ($n \leq 5$) in two blocks and four blocks, Confounding the $3n$ ($n \leq 3$) in three blocks, identification of the confounded effects for both 2^n ($n \leq 5$) and 3^n ($n \leq 3$) factorial designs.	B.Sc. (H) Statistics	STAT-C-601: Design of Experiments
	Practicals	Analysis of 2^2 and 2^3 factorial in CRD, RBD and LSD, Analysis of a 3^2 factorial in CRD and RBD, Analysis of a completely confounded two level factorial design in 2 blocks, Analysis of a completely confounded two level factorial design in 4 blocks, Analysis of a partially confounded two level factorial design.	B.Sc. (H) Statistics	STAT-C-601: Design of Experiments
	Tutorials			
	<u>Assignment</u>	Based on problems of LSD & MSPT	B.Sc. (H) Statistics	STAT-C-601: Design of Experiments
	<u>Test</u>	Test will be based on syllabus covered before midterm break	B.Sc. (H) Statistics	STAT-C-601: Design of Experiments
April	Theory	Analysis of a single replicate, Fractional Factorial Designs: Introduction, Concepts - Word, Defining Relation, Principal and Complementary Fractions, Aliases, Alias Structure, Resolution of a Design, Construction of Resolution III, IV and V Designs, Construction of one half and one-quarter fractions of 2^n ($n \leq 5$).	B.Sc. (H) Statistics	STAT-C-601: Design of Experiments
	Practicals	Analysis of a single replicate of a 2^n design, Analysis of one half fraction of 2^n factorial design, Analysis of one quarter fraction of 2^n factorial design.	B.Sc. (H) Statistics	STAT-C-601: Design of Experiments



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
 Odd Semester 2016-17

Name of the Faculty: Mrs. Raj Kumari

Department: Statistics

Semester : II/IV/VI

Month		Topics	Course	Paper
JANUARY	Theory	Variance and covariance of random variables and their properties, Conditional expectations, Bivariate transformations with illustrations, Moments, moment generating function and its properties. Cumulants, cumulant generating function and its properties.	B.Sc. (H) Statistics	STAT-C-201: Probability and Probability Distributions
		Probability: Introduction, random experiments, sample space, events and algebra of events. Definitions of Probability – classical, statistical, and axiomatic, Conditional Probability	Generic Elective	STAT-GE-2: Introductory Probability
	Practicals	Based on the topic covered in theory sessions	B.Sc. (H) Statistics	STAT-C-201: Probability and Probability Distributions
		Fitting of binomial distributions for n and $p = q = \frac{1}{2}$ given, Fitting of binomial distributions for n and p given, Fitting of binomial distributions computing mean and variance.	Generic Elective	STAT-GE-2: Introductory Probability
	Tutorials			
FEBRUARY	Theory	Characteristic function and its properties. Inversion theorem for continuous random variables, Definition, scatter diagram, Karl Pearson's coefficient of correlation. Spearman's rank correlation coefficient, Binomial and Poisson distributions, Uniform, Geometric, Negative Binomial distribution	B.Sc. (H) Statistics	STAT-C-201: Probability and Probability Distributions
		laws of addition and multiplication, independent events, theorem of total	Generic Elective	STAT-GE-2: Introductory Probability

		probability, Random Variables: Discrete and continuous random variables		
	Practicals	Based on the topic covered in theory sessions	B.Sc. (H) Statistics	STAT-C-201: Probability and Probability Distributions
		Fitting of Poisson distributions for given value of lambda, Fitting of Poisson distributions after computing mean, Application problems based on binomial distribution, Application problems based on Poisson distribution	Generic Elective	STAT-GE-2: Introductory Probability
	Tutorials			
March	Theory	Principle of least squares and fitting of polynomials and exponential curves, Linear regression. Partial and multiple correlation. Binomial and Poisson distributions distribution, Hypergeometric distributions.	B.Sc. (H) Statistics	STAT-C-201: Probability and Probability Distributions
		pmf, pdf, cdf. Illustrations of random variables and its properties.	Generic Elective	STAT-GE-2: Introductory Probability
	Practicals	Based on the topic covered in theory sessions	B.Sc. (H) Statistics	STAT-C-201: Probability and Probability Distributions
		Problems based on area property of normal distribution, To find the ordinate for a given area for normal distribution, Application based problems using normal distribution.	Generic Elective	STAT-GE-2: Introductory Probability
	Tutorials			
	Assignment	Based on unsolved problems	B.Sc. (H) Statistics	STAT-C-201: Probability and Probability Distributions
			Generic Elective	STAT-GE-2: Introductory Probability
	Test	Based on syllabus covered before midterm break	B.Sc. (H) Statistics	STAT-C-201: Probability and Probability Distributions
			Generic Elective	STAT-GE-2:

				Introductory Probability
April	Theory	Uniform, Normal and lognormal distribution. Practical work, Exponential, Beta, Gamma, Cauchy & Laplace Distribution.	B.Sc. (H) Statistics	STAT-C-201: Probability and Probability Distributions
		Expectation, variance, moments and moment generating function.	Generic Elective	STAT-GE-2: Introductory Probability
	Practicals	Based on the topic covered in theory sessions	B.Sc. (H) Statistics	STAT-C-201: Probability and Probability Distributions
		Fitting of normal distribution when parameters are given, Fitting of normal distribution when parameters are not given.	Generic Elective	STAT-GE-2: Introductory Probability
	Tutorials			



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
 Even Semester 2016-17

Name of the Faculty: Dr. M. V. R. Prasada Rao

Department: Statistics

Semester : II/IV/VI

Month		Topics	Course	Paper
JANUARY	Theory	Concepts of estimation, unbiasedness, consistency, Concepts of Efficiency. Minimum variance unbiased estimator (MVUE), Cramer-Rao inequality, MVB estimators and their applications.	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference
		Principles of test of significance: Null and alternative hypotheses (simple and composite), Type-I and Type-II errors, critical region, level of significance, size and power.	B.Sc. (H) Statistics	STH 601: Statistical Inference-II
	Practicals	Unbiased estimators (including unbiased but absurd estimators), Consistent estimators, efficient estimators and relative efficiency of estimators, Cramer-Rao inequality and MVB estimators.	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference
	Tutorials			
FEBRUARY	Theory	Concepts of Sufficiency. Fisher-Neyman Criterion (statement and applications), Factorization theorem, completeness, Rao-Blackwell and Lehmann-Scheffe theorems and their applications, Methods of estimation: Method of Maximum Likelihood, Method of Moments, method of minimum Chi-square,	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference
		Best critical region, most powerful test, uniformly most powerful test, uniformly most powerful unbiased critical region	B.Sc. (H) Statistics	STH 601: Statistical Inference-II
	Practicals	Sufficient Estimators: Factorization Theorem, Rao-Blackwell theorem, Complete Sufficient estimators, Lehman-Scheffe theorem and UMVUE. Maximum Likelihood Estimation, Asymptotic distribution of maximum likelihood estimators.	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference
	Tutorials			
March	Theory	basic idea of Bayes estimators, Principles of test of significance: Null and alternative hypotheses (simple and	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference

		composite), Type-I and Type-II errors, critical region, level of significance, size and power.		
		Neyman Pearson Lemma and its applications to construct most powerful test, Interval estimation - Confidence interval for the parameters of various distributions, Confidence interval for Binomial proportion, Confidence interval for population correlation coefficient for Bivariate Normal distribution, Pivotal quantity method of constructing confidence interval, Large sample confidence intervals.	B.Sc. (H) Statistics	STH 601: Statistical Inference-II
	Practicals	Estimation by the method of moments, minimum Chi-square, Type I and Type II errors, Most powerful critical region (NP Lemma)	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference
	Tutorials			
April	Theory	Best critical region, most powerful test, uniformly most powerful test, uniformly most powerful unbiased critical region (UMPU). Neyman Pearson Lemma and its applications to construct most powerful test. Likelihood ratio test, properties of likelihood ratio tests (without proof).	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference
		Likelihood ratio test, properties of likelihood ratio tests (without proof),	B.Sc. (H) Statistics	STH 601: Statistical Inference-II
	Practicals	Uniformly most powerful critical region, Power curves, Likelihood ratio tests for simple null hypothesis against simple alternative hypothesis, Likelihood ratio tests for simple null hypothesis against composite alternative hypothesis, Asymptotic properties of LR tests.	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference
Tutorials				



SEMESTER WISE TEACHING PLAN

SRI VENKATESWARA COLLEGE

Even Semester 2016-2017

Name of Faculty: Dr. Veena Budhraj

Department: Statistics

Semester : II/IV/VI

Month		Topics	Course	Paper Code/Name
JANUAR Y	Theory	Introduction to SPSS, Use of Count, Compute, Compute with if and Rank Feature, Concept of Recode and Visual Binning, Generation of Frequency Tables, Calculate Measure of Central Tendency, Measure of Dispersion, Create graph using Legacy Dialogs and chart Builder methods	B.Sc. (H) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
		Introduction and Objective behind building Econometric Models, General linear models, Estimation under linear restrictions	B.Sc. (H) Statistics	STH 603: Econometrics
	Practicals	Draw graphs and chart, Construct frequency table using recode and visual binning, compute descriptive statistics for row and group data, coefficient of variation, skewness and kurtosis, Use of Count, compute, compute with if and rank feature	B.Sc. (H) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
	Tutorials			
February	Theory	Correlation Coefficient, Multiple and Partial coefficients, Fitting of Polynomial and Exponential curve, Fitting of most suitable curve, Fitting and plotting of Regression lines	B.Sc.(H) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
		Multicollinearity, Concepts, Consequences, Tests for detection and Remedies, Generalized least squares, Concepts, Aitken's Estimator, Prediction.	B.Sc. (H) Statistics	STH 603: Econometrics
	Practicals	Calculate Correlation coefficient, Rank correlation, Multiple and Partial correlation, Fitting of polynomials, Diagnostics of Multicollinearity. Problems related to consequences of Autocorrelation (AR(I)).	B.Sc.(H) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
		Problems related to consequences of Multicollinearity. Diagnostics of Multicollinearity.	B.Sc. (H) Statistics	STH 603: Econometrics
Tutorials				
March	Theory	Generation of random variable, calculations of CDF, plot the normal probability plot, Importing and exporting files, Missing Observation,	B.Sc. (H) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
		Autocorrelation, Concepts, Consequences, Tests for detection and Remedies, Heteroscedasticity, Concepts, Consequences, Tests for detection and	B.Sc. (H) Statistics	STH 603: Econometrics

		Remedies.		
	Practicals	Generation of random sample, compute CDF,CLT for binomial and Poisson Distribution, Missing Observation, fit Binomial and Poisson and Negative Binomial distribution	B.Sc. (Hons.) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
		Diagnostics of Autocorrelation. Estimation of General linear model under Autocorrelation Problems related to consequences Heteroscedasticity. Diagnostics of Heteroscedasticity.	B.Sc. (H) Statistics	STH 603: Econometrics
	Tutorials			
	<u>Assignment</u>	Assignment will be based on topic specified in syllabus	B.Sc. (H) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
		Assignment will be based on different topics related to curriculum.	B.Sc. (H) Statistics	STH 603: Econometrics
	<u>Test</u>	Test will be based on syllabus covered before midterm break	B.Sc. (H) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
			B.Sc. (H) Statistics	STH 603: Econometrics
April	Theory	Statistical Inference, compute p-values, t-test, paired sample t-test, independent sample t-test chi square, comparison of several means, construction bivariate table, SRS, SS, code editing	B.Sc. (H) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
		Autoregressive and Lag models, Concepts, Consequences and Remedies	B.Sc. (H) Statistics	STH 603: Econometrics
	Practicals	Obtain sampling distribution, construct bivariate distribution, t-test, chi square, edit syntax, SRS, Stratified and systematic sample	B.Sc. (H) Statistics	SEC-1:Data Analysis Using Software Packages (SPSS)
		Estimation of problems of General linear model under Heteroscedastic disturbance terms. Problems concerning specification errors as a reason for induction of Autocorrelation, Heteroscdasticity and Multicollinearity. Problems related to General linear model under (Aitken Estimation). Problems on Autoregressive and Lag models.	B.Sc. (H) Statistics	STH 603: Econometrics



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
 Even Semester -2016-17

Name of the Faculty: **Dr. M.K. Sukla**

Department: **Statistics**

Semester: **II/IV/VI**

Month		Topics	Course	Paper
JANUARY	Theory	Statement of the fundamental theorem of algebra and its consequences. Relation between roots and coefficients or any polynomial equations, Solutions of cubic and biquadratic equations when some conditions on roots of equations are given. Evaluation of the symmetric polynomials and roots of cubic and biquadratic equations.	B.Sc. (H) Statistics	STAT C-202 Algebra
		General Linear Model-Definition, representations and classification, Estimability, Gauss Markov Theorem, Estimation of error variance Concepts of linear parametric functions, estimable functions, Conditions of estimability, Gauss Markov Theorem (for full rank and non-full rank cases) with proof, Concept of number of linearly independent functions. Distribution of Quadratic forms: Estimability when X is a full rank matrix, Estimability when X is not a full rank matrix, Distribution of Quadratic forms.	B.Sc. (H) Statistics	STAT C-402 Linear Models
	Practicals	Draw graphs and chart, Construct frequency table using recode and visual binning, compute descriptive statistics for row and group data, coefficient of variation, skewness	B.Sc. (H) Statistics	STAT C-402 Linear Models
			B.Sc. (H) Statistics	SEC-1: Data Analysis Using
	Tutorials			
FEBRUARY	Theory:	Review of algebra of matrices, theorems related to triangular, symmetric and skew symmetric matrices, idempotent matrices, Hermitian and skew Hermitian matrices, orthogonal matrices, singular and non-singular matrices and their properties. Trace of a matrix, unitary, Regression Analysis-Simple Linear Regression model, Least squares estimation of the parameters, Testing of Hypotheses, Interval estimation, Prediction, Coefficient of Determination, Regression through the origin, Multiple Linear Regression model, Estimation of model parameters, Testing of hypotheses-Global test, Test on Individual Regression Coefficients, Test for subset of Regression coefficients, Extra Sum of Squares method, Partial F test,	B.Sc. (H) Statistics	STAT C-202 Algebra
			B.Sc. (H) Statistics	STAT C-402 Linear Models
	Practicals:	Finding inverse using Cayley Hamilton theorem, For a real Skew Symmetric matrix S, show that matrix A defined by $(I-S)(I+S)^{-1}$ is an orthogonal matrix, Reducing a Quadratic Form to its canonical form and finding its rank and index	B.Sc. (H) Statistics	STAT C-202 Algebra

		Simple Linear Regression, Multiple Regression, Tests for Linear Hypothesis, Bias in regression estimates, Lack of fit.	B.Sc. (H) Statistics	STAT C-402 Linear Models
		Calculate Correlation coefficient, Rank correlation, Multiple and Partial correlation, Fitting of polynomials, Diagnostics of Multicollinearity. Problems related to consequences of Autocorrelation (AR(I)).	B.Sc.(H) Statistics	SEC-1:Data Analysis Using Software Packages
	Tutorials:			
			B.Sc. (H) Statistics	STAT C-202 Algebra
	Assignment	Will be based on unsolved problems covered before midterm break	B.Sc. (H) Statistics	STAT C-402 Linear Models
MARCH	Theory:	Adjoint and inverse of a matrix and related properties.	B.Sc. (H) Statistics	STAT C-202 Algebra
		Prediction from a fitted model, Bias in regression estimates, Analysis of Variance and Covariance-Definition of fixed, random and mixedeffect models, of Variance under Fixed effects model for one way classified data and two way classified data with equal number of observations per cell.	B.Sc. (H) Statistics	STAT C-402 Linear Models
	Practicals:	Reducing a Quadratic Form to its canonical form and finding its rank and index, Proving that a quadratic form is positive or negative definite, Finding the product of two matrices by considering partitioned matrices, Finding inverse of a matrix by partitioning, Finding Generalized Inverse of a matrix and symmetric generalized inverse of a matrix, To show that matrix A defined as $A = (I_n - X(X'X)^{-1}X')$ is idempotent. Also, determine its rank and characteristic root. Repeat the process by finding a generalized inverse of $X'X$ if inverse does not exist.	B.Sc. (H) Statistics	STAT C-202 Algebra
		Stepwise regression procedure, Analysis of Variance of a one way classified data, Analysis of Variance of a two way classified data with one observation per cell, Analysis of Variance of a two way classified data with $m (> 1)$ observations per cell, Analysis of Covariance of a one way classified data.	B.Sc. (H) Statistics	STAT C-402 Linear Models
		Generation of random variable, calculations of CDF, plot the normal probability plot, Importing and exporting files, Missing Observation,	B.Sc. (H) Statistics	SEC-1: Data Analysis Using Software Packages
	Tutorials:			

APRIL	Theory:	Definition, properties and applications of determinants for 3rd and higher orders, evaluation of determinants of order 3 and more using transformations. Symmetric and Skew symmetric determinants, Circulant determinants, Jacobi's Theorem, product of determinants. Use of determinants in solution to the system of linear equations.	B.Sc. (H) Statistics	STAT C-202 Algebra
		Analysis of Covariance under fixed effects model for one way, Selection of best linear regression equation by stepwise procedure, Model Adequacy checking- Residuals and outliers, violation of assumption of Normality, Lack of fit and pure error, Polynomial models: Orthogonal Polynomials.	B.Sc. (H) Statistics	STAT C-402 Linear Models
	Practicals:	Find XGX' for any X of order $n \times k$, where G is generalized inverse and show that XGX' is invariant with respect to G , To find whether a given set of vectors is linearly dependent or linearly independent, Constructing an Orthonormal Basis using Gram Schmidt Orthogonalization Process.	B.Sc. (H) Statistics	STAT C-202 Algebra
		Residual Analysis, Orthogonal Polynomials.	B.Sc. (H) Statistics	STAT C-402 Linear
		Obtain sampling distribution, construct bivariate distribution, t-test, chi square, edit syntax, SRS, Stratified and systematic sample	B.Sc. (H) Statistics	SEC-1: Data Analysis Using Software Packages



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
 Even Semester 2016-17

Name of the Faculty: Mr. Akash

Department: Statistics

Semester: II/IV/VI

Month		Topics	Course	Paper
JANUARY	Theory	Introduction to Time Series, Components of time series, Decomposition of time series-Additive and multiplicative model with their merits and demerits, Illustrations of time series. Measurement of trend by method of free-hand curve, method of semi-averages. Method of least squares (Linear trend).	Generic Elective	STAT-GE-4: Applied Statistics
		Sample Surveys: Basic concepts of sample survey: concept of sampling, need for sampling, complete enumeration v/s. sampling, principles of sampling theory, principal steps in a sample surveys, planning and organization of a sample survey, sampling and non-sampling errors.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
	Practicals	Measurement of trend: Fitting of linear, quadratic trend, exponential curve and plotting of trend values and comparing with given data graphically.	Generic Elective	STAT-GE-4: Applied Statistics
		Topics covered in theory	B.Sc. (H) Statistics	Practical-VI:
	Tutorials			
FEBRUARY	Theory	Measurement of trend by method of least squares (quadratic and exponential). Measurement of seasonal variations by method of ratio to trend, Introduction to Index Numbers, Construction of price and quantity Index Numbers by Simple Aggregate Method	Generic Elective	STAT-GE-4: Applied Statistics

		and Weighted Aggregate Method, Comparison and interpretation, Criteria of a good Index number. Construction of wholesale price index numbers, fixed base index numbers and consumer price index numbers with interpretation. Uses and limitations of index numbers		
		Simple random sampling (SRSWR and SRSWOR): definition and procedures of selecting a sample, properties of simple random sample, estimation of mean and sampling variance of sample mean.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
	Practicals	Measurement of seasonal indices by Ratio-to-trend method and plotting of trend values and comparing with given data graphically. 3. Construction of price and quantity index numbers by Laspeyre's formula, Paasche's formula, Marshall-Edgeworth's formula, Fisher's Formula. Comparison and interpretation.	Generic Elective	STAT-GE-4: Applied Statistics
		Topics covered in theory	B.Sc. (H) Statistics	Practical-VI:
		To select a SRS with and without replacement, For a population of size 5, estimate population mean, population mean square and population variance. Enumerate all possible samples of size 2 by wr and wor and establish all properties relative to SRS, For SRSWOR, estimate mean, standard error, the sample size.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
	Tutorials			
March	Theory	Introduction to Statistical Quality Control, Use of Statistical methods in industrial research and	Generic Elective	STAT-GE-4: Applied Statistics

		practice. Causes of variations in quality: chance and Assignable with illustrations, General theory of control charts, process & product control Determination of tolerance limits, Control charts for variables: X- bar and R-charts. Illustrations, Control charts for attributes: p and c-charts Illustrations.		
		Stratified random sampling: introduction, estimation of population mean and its variance, choice of sample sizes in different strata, comparison of stratified sampling under proportional and SRSWOR in terms of precision. Neyman allocation with SRSWOR in terms of precision.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
		Construction of wholesale price index number, fixed base index number and consumer price index number with interpretation, Construction and interpretation of $X(\infty)$ and R-chart, Construction and interpretation p-chart (fixed sample size) and c-chart.	Generic Elective	STAT-GE-4: Applied Statistics
	Practicals	Topics covered in theory	B.Sc. (H) Statistics	Practical-VI:
		Stratified Sampling: allocation of sample to strata by proportional and Neyman's methods, Compare the efficiencies of above two methods relative to SRS, Estimation of gain in precision in stratified sampling, Comparison of systematic sampling with stratified sampling and SRS in the presence of a linear trend, Analysis of a one way/ two way ANOVA, Analysis of a	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments

		CRD, RBD.		
	Tutorials			
April	Theory	Introduction to Demographic Methods, measurement of population, rates and ratios of vital events, Measurement of mortality: Crude Death Rate, Specific Death Rate (w.r.t. Age and sex), Infant Mortality Rate, Standardized death rates, Life (mortality) tables: Assumptions, Description and Construction of Life table. Uses of Life table, Measurement of fertility and reproduction rate: CBR, GFR, and TFR. Measurement of population growth: GRR, NRR. Comparison and Interpretation.	Generic Elective	STAT-GE-4: Applied Statistics
		Systematic sampling: introduction to linear systematic sampling, estimation of sample mean and its variance ($N=nk$), comparison of systematic sampling with SRSWOR in terms of mean squares.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
	Practicals	Computation of measures of mortality, Completion of life table, Computation of measures of fertility and population growth.	Generic Elective	STAT-GE-4: Applied Statistics
		Topics covered in theory	B.Sc. (H) Statistics	Practical-VI:
		Analysis of a LSD. 10. Analysis of an RBD with one missing observation. 11. Analysis of an LSD with one missing observation. 12. Analysis of 22 and 23 factorial in CRD and RBD.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
Tutorials				



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
 Even Semester 2016-17

Name of the Faculty: Dr. Joginder

Department: Statistics

Semester : II/IV/VI

Month		Topics	Course	Paper
JANUARY	Theory	Sequential Probability Ratio Test. Determination of stopping bounds A and B, OC and ASN functions of SPRT	B.Sc. (H) Statistics	STH 601: Statistical Inference-II
		Survival Analysis: To study various survival functions and interrelationship between them. Introduction to various survival models, Censoring Schemes: Definition of censoring. Study of Type I, Type II and progressive or random censoring with biological examples.	B.Sc.(H) Statistics	STH 604: Bio-Statistics
	Practicals	Unbiased estimators (including unbiased but absurd estimators), Consistent estimators, efficient estimators and relative efficiency of estimators, Cramer-Rao inequality and MVB estimators.	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference
	Tutorials			
FEBRUARY	Theory	Non-Parametric tests. Empirical distribution function, one sample and two-sample sign test.	B.Sc. (H) Statistics	STH 601: Statistical Inference-II
		Non parametric Methods: Actuarial and Kaplan-Meier methods for estimating survival function and variance of the Estimator, Competing Risk Theory: Introduction of various measures of competing risk theory, Estimation of probabilities of death using maximum likelihood principle and modified minimum Chi-square methods.	B.Sc.(H) Statistics	STH 604: Bio-Statistics
	Practicals	Sufficient Estimators: Factorization Theorem, Rao-Blackwell theorem, Complete Sufficient estimators, Lehman-Scheffe theorem and UMVUE. Maximum Likelihood Estimation, Asymptotic distribution of maximum likelihood estimators.	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference
	Tutorials			
March	Theory	Wald-Wolfowitz run test. Run test for randomness, Median test,.	B.Sc. (H) Statistics	STH 601: Statistical Inference-II

		Theory of independent and dependent risks: Bivariate normal dependent risk model., Stochastic Epidemic Models: Definition of epidemic, susceptibles and infective.	B.Sc.(H) Statistics	STH 604: Bio-Statistics
	Practicals	Estimation by the method of moments, minimum Chi-square, Type I and Type II errors, Most powerful critical region (NP Lemma)	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference
	Tutorials			
	Assignment	Will be based on unsolved problems	B.Sc. (H) Statistics	STH 601: Statistical Inference-II
			B.Sc.(H) Statistics	STH 604: Bio-Statistics
	Test	Will be based on topics covered before midterm break	B.Sc. (H) Statistics	STH 601: Statistical Inference-II
			B.Sc.(H) Statistics	STH 604: Bio-Statistics
April	Theory	Wilcoxon-Mann-Whitney U-test. Kolmogorov-Smirnov one-sample test, Kruskal-Wallis test.	B.Sc. (H) Statistics	STH 601: Statistical Inference-II
		Simple and general epidemic model. Duration of an epidemic.Clinical trials: Phases of clinical drug trial. Blinding.	B.Sc.(H) Statistics	STH 604: Bio-Statistics
	Practicals	Uniformly most powerful critical region, Power curves, Likelihood ratio tests for simple null hypothesis against simple alternative hypothesis, Likelihood ratio tests for simple null hypothesis against composite alternative hypothesis, Asymptotic properties of LR tests.	B.Sc. (H) Statistics	STAT-C-401: Statistical Inference
	Tutorials			



SEMESTER WISE TEACHING PLAN
SRI VENKATESWARA COLLEGE
 Even Semester 2016-17

Name of the Faculty: Mr. Ashutosh Awasthi

Department: Statistics

Semester: II/IV/VI

Month		Topics	Course	Paper
JANUARY	Theory	Row reduction and echelon forms, the solution of matrix equations $AX=B$, linear independence, Applications of linear equations, inverse of a matrix	B.Sc. (H) Statistics	STAT C-202 Algebra
		Discrete probability distributions: Binomial, Poisson.	B.Sc. (H) Statistics	STAT-GE-2: Introductory Probability
		Analysis of variance: one-way and two-way classified data with one observation per cell only, Design of experiments: Principles of Design of experiments, uniformity trails.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
	Practicals	Finding inverse using Cayley Hamilton theorem, For a real Skew Symmetric matrix S , show that matrix A defined by $(I-S)(I+S)^{-1}$ is an orthogonal matrix, Reducing a Quadratic Form to its canonical form and finding its rank and index	B.Sc. (H) Statistics	STAT C-202 Algebra
		Draw graphs and chart, Construct frequency table using recode and visual binning, compute descriptive statistics for row and group data, coefficient of variation, skewness and kurtosis, Use of Count, compute, compute with if and rank feature	B.Sc. (H) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
		Fitting of binomial distributions for n and $p = q = \frac{1}{2}$ given, Fitting of binomial distributions for n and p given, Fitting of binomial distributions computing mean and variance.	B.Sc. (H) Statistics	STAT-GE-2: Introductory Probability
	Tutorials			
	FEBRUARY	Theory	Rank of a matrix, row-rank, column-rank, standard theorems on ranks, rank of the sum and the product of two matrices, Generalized inverse (concept with illustrations).	B.Sc. (H) Statistics
		Geometric, Negative Binomial, Hypergeometric., Uniform and	B.Sc. (H) Statistics	STAT-GE-2: Introductory

		Normal,		Probability
		Completely Randomized Design (CRD), Randomized Block Design (RBD) and Latin Square Design (LSD): Introduction, Structure, Model and Parameters, ANOVA, Advantages and Disadvantages, Uses, Relative efficiencies of RBD compared to CRD, LSD compared to CRD, LSD compared to RBD taking rows and columns as blocks.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
	Practicals	Generation of random variable, calculations of CDF, plot the normal probability plot, Importing and exporting files, Missing Observation,	B.Sc. (H) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
		Fitting of Poisson distributions for given value of lambda, Fitting of Poisson distributions after computing mean, Application problems based on binomial distribution, Application problems based on Poisson distribution	B.Sc. (H) Statistics	STAT-GE-2: Introductory Probability
		To select a SRS with and without replacement, For a population of size 5, estimate population mean, population mean square and population variance. Enumerate all possible samples of size 2 by wr and wor and establish all properties relative to SRS, For SRSWOR, estimate mean, standard error, the sample size.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
	Tutorials			
March	Theory	Partitioning of matrices and simple properties, Characteristic roots and Characteristic vector, Properties of characteristic roots.	B.Sc. (H) Statistics	STAT C-202 Algebra
		Exponential, Beta and Gamma, Convergence in probability,	B.Sc. (H) Statistics	STAT-GE-2: Introductory Probability
		Missing plot technique. Analysis under a single missing observation: Missing plot technique (for RBD and LSD), Variance of the difference between two estimated treatment effects out of which one has 1 missing observation for both RBD and LSD. 2^2 and 2^3 Factorial experiments: Introduction, Terminology, Main effects and interactions, Notation, Standard order for treatment combinations, ANOVA, Yate's Algorithm.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments

	Practicals	Reducing a Quadratic Form to its canonical form and finding its rank and index, Proving that a quadratic form is positive or negative definite, Finding the product of two matrices by considering partitioned matrices, Finding inverse of a matrix by partitioning, Finding Generalized Inverse of a matrix and symmetric generalized inverse of a matrix, To show that matrix A defined as $A = (I_n - X(X'X)^{-1}X')$ is idempotent. Also, determine its rank and characteristic root. Repeat the process by finding a generalized inverse of $X'X$ if inverse does not exist.	B.Sc. (H) Statistics	STAT C-202 Algebra
		Problems based on area property of normal distribution, To find the ordinate for a given area for normal distribution, Application based problems using normal distribution.	B.Sc. (H) Statistics	STAT-GE-2: Introductory Probability
		Stratified Sampling: allocation of sample to strata by proportional and Neyman's methods, Compare the efficiencies of above two methods relative to SRS, Estimation of gain in precision in stratified sampling, Comparison of systematic sampling with stratified sampling and SRS in the presence of a linear trend, Analysis of a one way/ two way ANOVA, Analysis of a CRD, RBD.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
	Tutorials			
	Assignment	Based on unsolved problems	B.Sc. (H) Statistics	STAT C-202 Algebra
B.Sc. (H) Statistics			STAT-GE-2: Introductory Probability	
B.A. (Programme)			Core 4: Survey Sampling and Design of Experiments	
	Test	Based on syllabus covered before midterm break	B.Sc. (H) Statistics	STAT C-202 Algebra
B.Sc. (H) Statistics			STAT-GE-2: Introductory Probability	
B.A. (Programme)			Core 4: Survey Sampling and Design of Experiments	

April	Theory	Cayley Hamilton theorem, Quadratic forms, Linear orthogonal transformation and their digitalization.	B.Sc. (H) Statistics	STAT C-202 Algebra
		Almost sure convergence, Chebyshev's inequality, weak law of large numbers.	B.Sc. (H) Statistics	STAT-GE-2: Introductory Probability
		Indian Official Statistics: Present Official Statistical System in India relating to census of population, agriculture, industrial production, and prices; methods of collection of official statistics, major publications, their reliability and limitations. Agencies responsible for the data collection C.S.O., N.S.S.O., Office of Registrar General: historical development, main functions and important publications.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
	Practicals	Find XX' for any X of order $n \times k$, where G is generalized inverse and show that XX' is invariant with respect to G , To find whether a given set of vectors is linearly dependent or linearly independent, Constructing an Orthonormal Basis using Gram Schmidt Orthogonalization Process.	B.Sc. (H) Statistics	STAT C-202 Algebra
		Obtain sampling distribution, construct bivariate distribution, t-test, chi square, edit syntax, SRS, Stratified and systematic sample	B.Sc. (H) Statistics	SEC-1: Data Analysis Using Software Packages (SPSS)
		Fitting of normal distribution when parameters are given, Fitting of normal distribution when parameters are not given.	B.Sc. (H) Statistics	STAT-GE-2: Introductory Probability
		Analysis of a LSD. 10. Analysis of an RBD with one missing observation. 11. Analysis of an LSD with one missing observation. 12. Analysis of 22 and 23 factorial in CRD and RBD.	B.A. (Programme)	Core 4: Survey Sampling and Design of Experiments
	Tutorials			